INTERREGIONAL ECONOMIC IMPACTS OF THE ALBERTA ALSANDS PROJECT

Gordon W. Douglas
and James V. MacMillan

CANADIAN ENERGY RESEARCH INSTITUTE

CLIENT RESEARCH REPORT No. 82-2
September, 1982
ISBN 0-920522-24-6

87-02082/

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PRICE: $15.00

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In addition to undertaking studies in energy economics funded collectively by the five Institute sponsors, CERI carries out research for clients on a contractual basis. This report in the Institute's client research report series was prepared for Alsands Energy Ltd. in 1981. Although the Alsands consortium eventually decided not to proceed with the project, the analysis of the impact of plant and townsite construction reported here will be of considerable interest to policy makers and those considering projects similar to Alsands.

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ACKNOWLEDGEMENTS

This project was carried out in the period March-June 1981 by the following project team at the Canadian Energy Research Institute (CERI) in Calgary.

G.W. Douglas	Senior Econometrician
J.A. MacMillan	Vice President - Client Services

We would like to thank Craig Gaston and Michel Bedard of the Structural Analysis Division, Statistics Canada, who provided the impact runs with the Interprovincial Inputoutput model and advice on their interpretation. Special thanks are due CERI staff: Tim Crocker and Jeannette Palin who provided the tables and graphs and to Shirley Ingstrup, Janice Tener, Arlene Ward and Carol Adams for their efficient typing.

EXECUTIVE SUMMARY

Alsands Energy Ltd. is proposing to build a tar sands plant in northeastern Alberta. The impact of this project will provide substantial benefits in terms of income and employment to Canada and three provinces in particular: Alberta, Ontario and Quebec. Table I details the economic impact. The project will generate income, as measured by Gross Domestic Product at Market Prices, of almost $54 billion (1980 dollars). Of this, 69 percent will accrue to Alberta, 21 percent to Ontario and 5 percent to Quebec. In terms of jobs, the project will generate 592,000 man-years of employment, 59 percent of which will be in Alberta, 23 percent in Ontario and 11 percent in Quebec.

The impact may be disaggregated into three components representing the six year construction phase of the tar sands plant, the thirty year operation phase of the plant, and construction over six years of a new urban residential development to service and house the Alsands employees. During the six year construction period for the tar sands plant and the urban and residential development, an additional $11.4 billion of income will be earned and 209,000 jobs created. Alberta, Ontario and Quebec have a 48, 28 and 12 percent share, respectively, of the income, and a 43, 31 and 14 percent share, respectively, of the employment.

The 30 year plant operation phase has a relatively larger impact on Alberta than the construction phase. Because this impact occurs over a longer time period, the impact on an annual basis may actually be less. Alberta obtains a 75 percent share of the income and a 67 percent share of the employment generated by the operation phase. The impact on Ontario and Quebec is correspondingly less; of the income these two provinces obtain, respectively, a 19 percent and 3 percent share, and of the employment, a 19 and 8 percent share.

TABLE I

EXPENDITURES OF ALSANDS ENERGY LTD. AND THEIR ECONOMIC IMPACT[a]

	Alsands Expenditures (millions of 1980 $)	Impact on Income[c] (millions of 1980 $)				Impact on Employment (thousands of man-years)			
		Alberta	Ontario	Quebec	Canada	Alberta	Ontario	Quebec	Canada
Plant construction (6 year period)	7,910	4,973	2,798	1,158	9,955	82.2	56.6	25.1	183.2
Plant operation (30 year period)	44,502	31,792	8,220	1,337	42,505	257.6	74.1	32.3	382.7
Urban and residential development (6 year period)	900	558	383	219	1,450	8.0	7.7	4.8	25.6
Total	53,312	37,323	11,402	2,715	53,910	348.0	138.4	62.2	591.6

NOTE: Totals may not add due to rounding.

[a]The income and employment impacts are estimated using the 1974 Statistics Canada Interprovincial Input-output model which assumes that there are no labour or capital capacity constraints. The estimates may be considered low because the following factors are not included:

- stimulus to government activity resulting from tax earning and demand for government services
- stimulus to investment resulting from business earnings and demand for government services
- opportunities for import substitution

[b]Commodity detail on expenditure data was provided by Alsands Energy Ltd. and is shown in Appendix B.

[c]The income measure is Gross Domestic Product at Market Prices.

In Ontario and Quebec the industries in which the largest economic impact occurs are manufacturing, trade, and finance, insurance and real estate. In the province of Alberta, trade, mining, services and finance, insurance and real estate are the industries which are stimulated the most.

These results have been generated using Statistics Canada's 1974 Interprovincial Input-output model. It has been assumed that there are no capital or labour capacity constraints so that the impact of the Alsands project will be in terms of increased output and employment, and not higher prices. The estimates may be considered low because the following factors are not included:

- stimulus to government activity resulting from tax earnings and demands for government services
- stimulus to investment resulting from business earnings and demands on capacity
- opportunities for import substitution

Chapter 1

INTRODUCTION

Alsands Energy Ltd. is a consortium of nine oil companies[1] which is proposing to build a tar sands plant in northeastern Alberta. The plant is to be located north of Fort McMurray on the east bank of the Athabasca River. There will be a new urban and residential development near the plant site to service and house about 3,500 employees on a permanent basis, with the balance in other locations. The cost to construct the urban and residential development is estimated to be $900 million (1980 dollars), requiring 7,000 man-years of employment. These costs will be expended over a six-year period. Of this, 45 percent is assumed to be borne by Alsands; the rest is to be provided by other parties. The estimated cost of constructing the tar sands plant iself is $7,910 million (1980 dollars). These expenditures will take place over six years and when the project is completed the plant will have a design capacity to produce 137,000 barrels of synthetic crude oil and liquified petroleum gases per day. The construction phase will require 53,000 man-years of employment. The operating costs of the project for a thirty-year period, assuming a startup date of 1988, are expected to total $44,502 million (1980 dollars), including taxes and royalties. Man-power requirements for this phase are 145,000 man-years.

This study examines the economic impact of these three sets of expenditures: the construction of the urban and residential development, the construction of the tar sands plant, and the operation of the tar sands plant. Both the provincial and industrial impacts of the project are delineated.

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[1]Shell Canada Limited, Shell Explorer Limited, Gulf Canada Resources Inc., Hudson's Bay Oil & Gas Ltd., Dome Petroleum Limited, Amoco Canada Petroleum Company Ltd., Chevron Standard Limited, Petrocan and Petrofina Canada Inc.

The primary tool of analysis is the Statistics Canada 1974 version of its Interprovincial Input-output model. By using this model the origin and type of input of all goods and services used by the Alsands project can be readily estimated. This allows us to attribute the economic impact of the project to various provinces according to the value added in that region rather than according to the value of purchases made in that province.

The report is organized as follows. Section II will contain the presentation of results with separate discussions for the impact of the three sets of expenditures. The appendices provide fuller documentation of the study. Appendix A describes the method of analysis, the assumptions and the definitions of impact measures and multipliers. Appendix B describes the Alsands cost data and delineates the assumptions involved. Appendix C provides tables on the economic impact of the expenditures related to plant construction, plant operation and the urban and residential development.

Chapter 2

SUMMARY OF RESULTS

2.1 Introduction

The Statistics Canada Interprovincial Input-output model is ideal for analyzing the provincial distribution of economic activity stimulated by the construction and operation of a major energy facility in Alberta. The goods and services required by the tar sands plant are produced in Alberta and other provinces. The workers involved with project construction and plant operation will spend their wages on goods and services which are produced in Alberta and other provinces. The input-output model provides an accounting framework based on the 1974 structure of the Canadian economy. This structure is delineated in terms of production processes, international and interprovincial trade patterns and job output ratios. The model provides an estimate of the distribution of economic activity as if the project were built and operated in 1974. The economic impact can be accurately translated into a 1980's impact if technical processes and trade patterns remain relatively unchanged over this period.

Input-output analysis decomposes the economic impact into three effects: direct, indirect and induced.

- Direct effects are those which involve particular industries whose output is directly stimulated by the project expenditures.
- Indirect effects occur in those industries that supply inputs to the industries directly stimulated and also the subsequent effects of supplying these industries etc.
- Induced effects are the increase in economic activity generated by the spending of household income (wages, salaries and supplementary labour income and net income of unincorporated business).

However, several important economic impacts are omitted including:

- stimulus to government activity resulting from tax earnings and demand for government services
- stimulus to investment resulting from business earnings and demands on capacity
- opportunities for import substitution as a larger Canadian market develops for imported goods and services.

The sections which follow describe the provincial and industrial impact on income and employment of three sets of Alsands project data:

- Plant Construction Expenditures: $7,910 million (1980 dollars)
- Plant Operation Expenditures: $44,502 million (1980 dollars)
- Urban and Residential Development Expenditures: $900 million (1980 dollars)

The impact measures for income are Gross Domestic Product at Factor Cost (GDPFC) and Gross Domestic Product at Market Prices (GDPMP) in 1980 dollars. The distinction between these terms as well as the definition of other impact measures are delineated in Appendix A. The tables which show the industrial composition of income (GDPFC and 1 GDPMP) exclude the initial expenditures by Alsands on factor incomes.[1] However, these expenditures are included in aggregated income figures and tables. Similarly, the tables showing the industrial composition of employment exclude the employment of construction and operating phase employees of Alsands, but are included in the aggregated figures and tables.

Detailed tables of direct, indirect and induced effects for each province and industry are in Appendix C.

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[1]Wages and salaries, supplementary labour income and other operating surplus.

A discussion of the preparation of the cost data for use in the input-output model is contained in Appendix B.

2.2 Plant Construction

The economic impact on income of the plant construction expenditures is summarized in Table 2.1 and Figure 2.1. The impact on income of almost $10 billion (1980 dollars) is primarily in three provinces. Alberta garners 50 percent of the increased income; the Ontario and Quebec shares are 28 and 12 percent, respectively. As expected, most of the direct income generated is in Alberta because of the location of the plant. However, the indirect effects in Ontario are greatest because of the location of many goods supplying industries in that province (see Table 2.3).

The impact on employment is very similar, as shown in Figure 2.2 and Table 2.2. Regional and industrial variations in productivity account for a relatively higher employment impact in some provinces. The industrial distribution of employment is shown in Table 2.4.

In Ontario and Quebec the industries experiencing the largest impact in terms of income and employment are manufacturing (both durables and non-durables), trade, and finance, insurance and real estate. Within durables manufacturing the primary metals, metal fabricating and machinery industries are affected most. In Alberta, mining, services, trade, and finance, insurance and real estate receive the largest impact.

2.3 Plant Operation

Figure 2.3 and Table 2.1 show the impact on income of the plant operation expenditures. About 75 percent of the impact is in Alberta and only 19 percent in Ontario. Of the direct income 70 percent is due to Alsands' royalty payments to the Alberta government. The input-output model assumes that this money is not respent by the government so that these funds do not generate any induced income. These royalties, according to Statistics Canada convention, are included in finance, insurance and real estate. Table 2.5 shows the industrial distribution of income. Other industries in Alberta in which there are substantial effects on income and employment are mining, trade, utilities and services. The

TABLE 2.1

IMPACT ON INCOME[a]
(Millions of 1980 Dollars)

	Direct	Indirect	Induced	Total
Plant Construction:				
Atlantic Canada	110	9	80	199
Quebec	351	180	627	1,158
Ontario	856	583	1,359	2,798
Alberta	3,060	373	1,540	4,973
Other Western Provinces	276	96	455	827
Canada	4,652	1,242	4,061	9,955
Plant Operation:				
Atlantic Canada	5	12	47	64
Quebec	168	205	964	1,337
Ontario	5,432	631	2,157	8,220
Alberta	25,963	1,449	4,380	31,792
Other Western Provinces	214	127	751	1,092
Canada	31,783	2,424	8,298	42,505
Urban and Residential Development:				
Atlantic Canada	0	1	5	6
Quebec	77	36	106	219
Ontario	114	70	199	383
Alberta	325	38	195	558
Other Western Provinces	147	20	117	284
Canada	663	164	623	1,450

NOTE: Totals may not add due to rounding.

[a]The income measure is Gross Domestic Product at Market Prices.

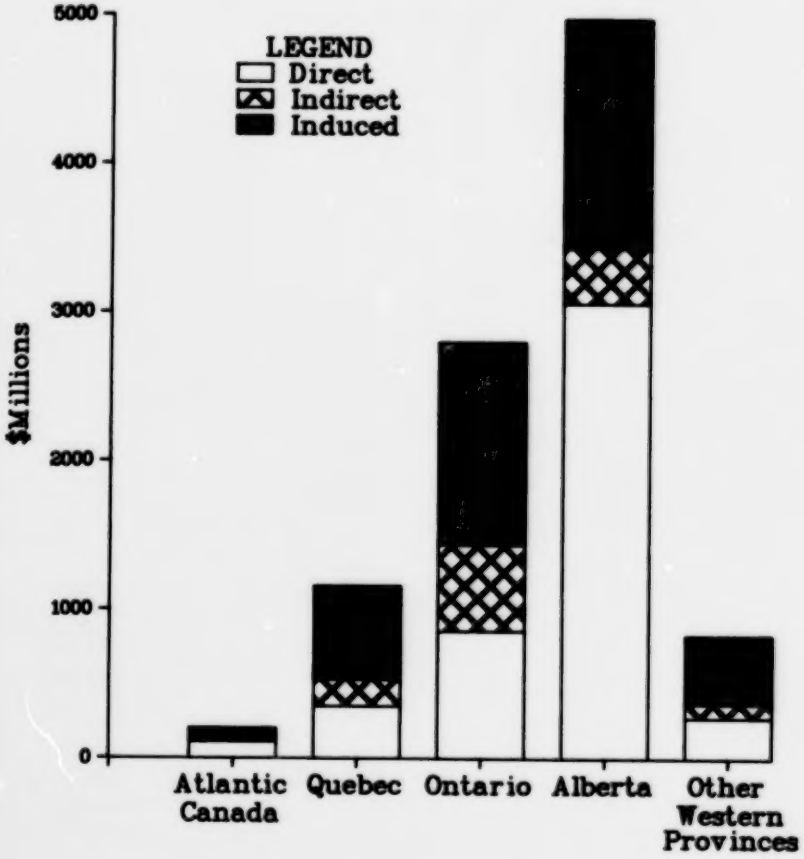

FIGURE 2.1: Plant Construction
Gross Domestic Product
at Market Prices

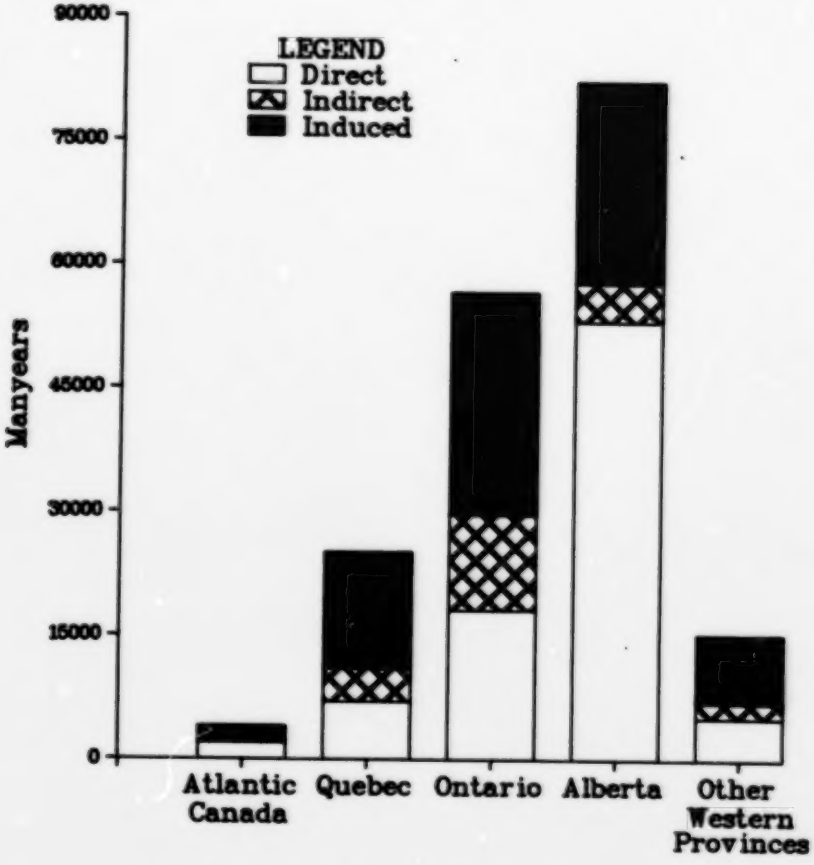

FIGURE 2.2: Plant Construction Employment

TABLE 2.2

IMPACT ON EMPLOYMENT
(Thousands of Man-Years)

	Direct	Indirect	Induced	Total
Plant Construction:				
Atlantic Canada	2.0	0.3	1.7	4.0
Quebec	7.0	4.0	14.1	25.1
Ontario	18.1	11.6	26.9	56.6
Alberta	53.1	4.7	24.4	82.2
Other Western Provinces	5.1	1.9	8.2	15.2
Canada	85.3	22.5	75.4	183.2
Plant Operation:				
Atlantic Canada	0.1	0.3	1.2	1.6
Quebec	5.1	4.6	22.6	32.3
Ontario	16.8	13.3	44.0	74.1
Alberta	177.9	9.4	70.4	257.6
Other Western Provinces	0.8	2.5	13.9	17.2
Canada	200.7	30.0	152.0	382.7
Urban and Residential Development:				
Atlantic Canada	0.0	0.1	0.2	0.2
Quebec	1.7	0.7	2.4	4.8
Ontario	2.4	1.3	4.0	7.7
Alberta	4.4	0.5	3.1	8.0
Other Western Provinces	2.4	0.3	2.1	4.9
Canada	11.0	3.0	11.6	25.6

NOTE: Totals may not add due to rounding.

TABLE 2.3

PLANT CONSTRUCTION
DIRECT, INDIRECT AND INDUCED GROSS DOMESTIC PRODUCT AT FACTOR COST
(millions of 1980 dollars)

	Atlantic Canada	Quebec	Ontario	Alberta	Other Western Provinces	Canada
Agriculture, Forestry and Fishing	4	19	50	112	55	240
Mining	2	19	90	334	24	469
Non-Durables Manufacturing	11	164	264	99	63	601
Durables Manufacturing	3	134	582	200	47	966
Construction	2	22	70	90	10	194
Transportation	8	89	188	159	53	498
Utilities	5	21	48	148	15	235
Trade	16	148	373	371	76	985
Finance, Insurance and Real Estate	12	116	307	383	93	911
Services	9	84	191	357	54	696
Households	5	18	49	89	14	175
TOTAL	78	834	2213	2342	504	5970

NOTE: Totals may not add due to rounding.

TABLE 2.4

PLANT CONSTRUCTION
DIRECT, INDIRECT AND INDUCED EMPLOYMENT
(thousands of man-years)

	Atlantic Canada	Quebec	Ontario	Alberta	Other Western Provinces	Canada
Agriculture, Forestry and Fishing	0	0	1	1	0	2
Mining	0	0	1	1	0	2
Non-Durables Manufacturing	0	5	6	2	1	15
Durables Manufacturing	0	3	13	5	1	22
Construction	0	0	1	2	0	4
Transportation	0	2	5	4	1	13
Utilities	0	0	1	1	0	2
Trade	1	5	14	12	3	35
Finance, Insurance and Real Estate	0	2	4	3	1	10
Services	0	3	8	13	2	26
TOTAL	2	22	52	45	11	131

NOTE: Totals may not add due to rounding.

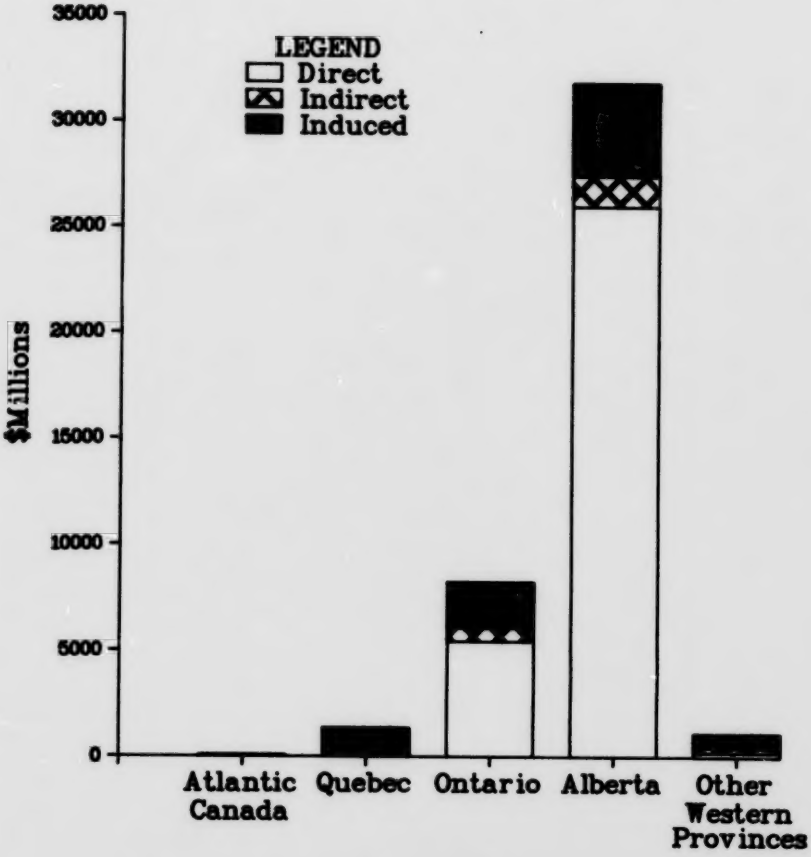

FIGURE 2.3: Plant Operation
Gross Domestic Product
at Market Prices

TABLE 2.5

PLANT OPERATION
DIRECT, INDIRECT AND INDUCED GROSS DOMESTIC PRODUCT AT FACTOR COST
(millions of 1980 dollars)

	Atlantic Canada	Quebec	Ontario	Alberta	Other Western Provinces	Canada
Agriculture, Forestry and Fishing	4	28	71	276	95	474
Mining	1	7	19	722	31	781
Non-Durables Manufacturing	15	291	661	245	134	1346
Durables Manufacturing	3	108	493	120	59	783
Construction	1	16	39	201	14	272
Transportation	9	142	295	511	93	1050
Utilities	4	27	64	822	18	935
Trade	8	246	548	999	109	1910
Finance, Insurance and Real Estate	9	192	521	8618	176	9515
Services	5	131	305	744	79	1264
Households	1	20	59	261	13	354
TOTAL	61	1207	3075	13519	823	18685

NOTE: Totals may not add due to rounding.

impact on Ontario is primarily in the durable and non-durable manufacturing industries, trade, and finance, insurance and real estate.

The impact on employment is shown in Figure 2.4 and Table 2.2, with the distribution by industry shown in Table 2.6.

2.4 Urban and Residential Development

The impact of the urban and residential development expenditures on provincial income is shown in Figure 2.5 and Table 2.1; the impact on employment is displayed in Figure 2.6. The impact of this phase of the Alsands project is considerably less than that of the construction and operation of tar sands plant itself. The pattern of impact is roughly similar. Alberta, Ontario and Quebec benefit the most; Alberta because of the direct income effect and Ontario and Quebec primarily because of indirect and induced effects.

Table 2.7 summarizes the industrial impact on income and Table 2.8 the impact on employment. The manufacturing, trade, services, and finance, insurance and real estate industries of Ontario and Quebec receive the largest gains in income and employment. In Alberta, mining, trade, manufacturing, services, and finance, insurance and real estate are the industries most affected.

2.5 Multipliers

Another perspective on the economic impact of the Alsands project can be gained by the determination of multipliers. A Leontieff multiplier is the ratio of the direct and indirect effects created by the initial expenditures to the direct effects. A Keynesian multiplier includes the induced effects in the numerator and is thus a more comprehensive measure of economic impact.[2] Table 2.9 shows the derivation of income and employment multipliers separately for plant construction, plant operation, and urban and residential development expenditures. These multipliers should be interpreted as in the following example, for each

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[2]See Appendix A for detailed discussion of multipliers.

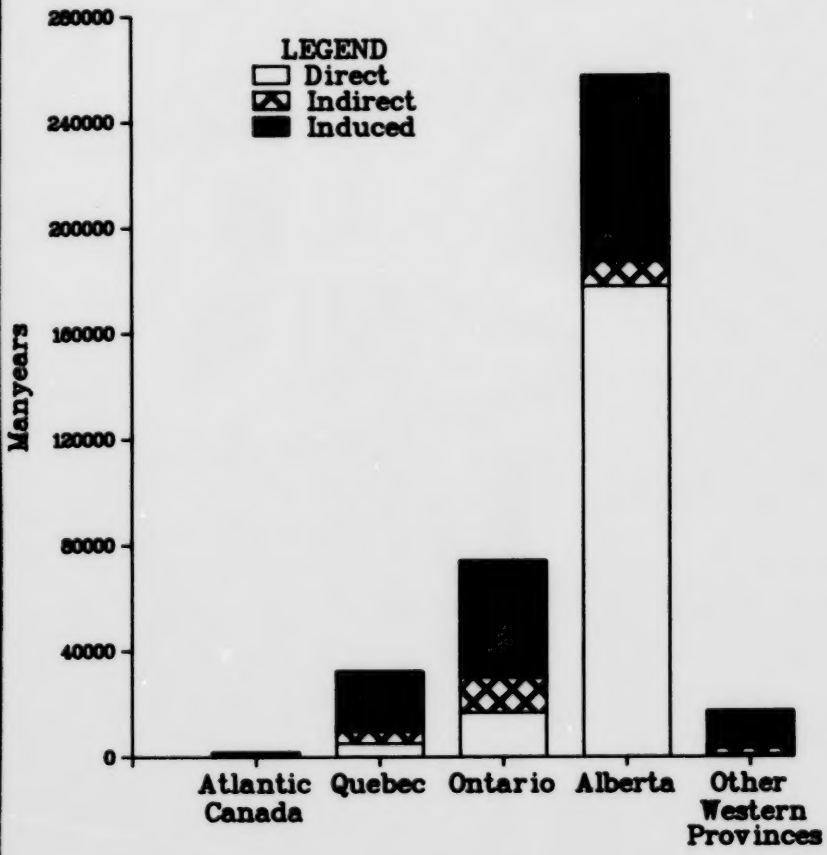

FIGURE 2.4: Plant Operation Employment

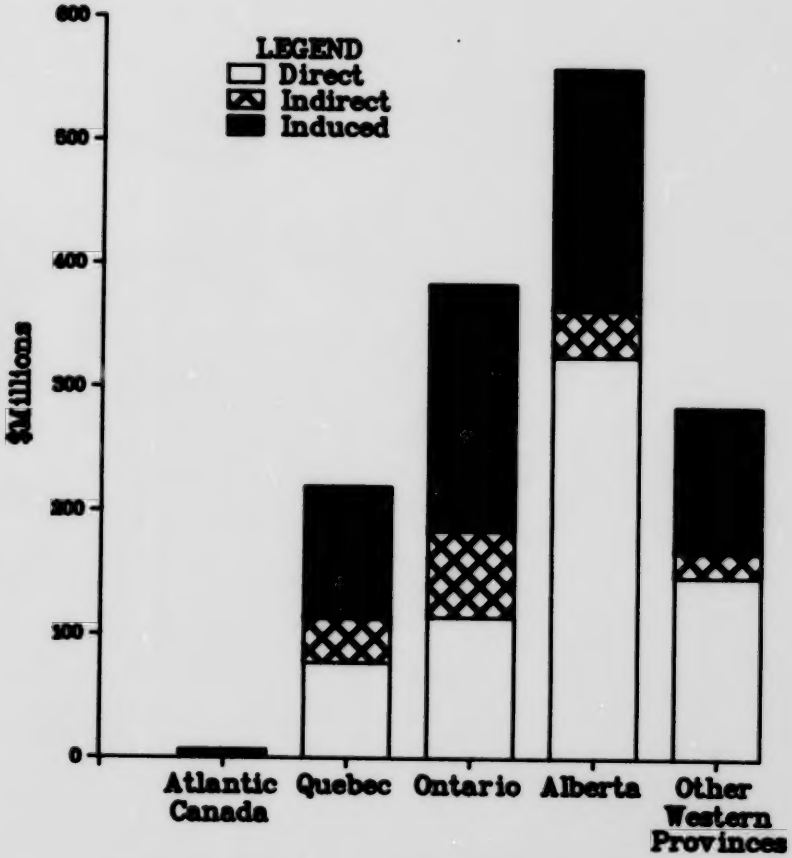

FIGURE 2.5: Urban and Residential Development Gross Domestic Product at Market Prices

TABLE 2.6

PLANT OPERATION
DIRECT, INDIRECT AND INDUCED EMPLOYMENT
(thousands of man-years)

	Atlantic Canada	Quebec	Ontario	Alberta	Other Western Provinces	Canada
Agriculture, Forestry and Fishing	0	0	1	1	1	3
Mining	0	0	0	2	0	2
Non-Durables Manufacturing	0	8	14	6	3	31
Durables Manufacturing	0	3	11	3	1	18
Construction	0	0	1	4	0	5
Transportation	0	4	7	13	2	27
Utilities	0	0	1	7	0	8
Trade	0	0	21	34	4	67
Finance, Insurance and Real Estate	0	9	7	17	2	29
Services	0	3	12	26	3	47
TOTAL	2	32	74	113	17	238

NOTE: Totals may not add due to rounding.

TABLE 2.7

URBAN AND RESIDENTIAL DEVELOPMENT
DIRECT, INDIRECT AND INDUCED GROSS DOMESTIC PRODUCT AT FACTOR COST
(millions of 1980 dollars)

	Atlantic Canada	Quebec	Ontario	Alberta	Other Western Provinces	Canada
Agriculture, Forestry and Fishing	0	3	7	16	12	40
Mining	0	1	3	33	5	42
Non-Durables Manufacturing	1	32	44	12	15	104
Durables Manufacturing	0	29	65	33	12	141
Construction	0	2	4	5	2	14
Transportation	1	16	27	15	10	69
Utilities	1	4	7	10	4	25
Trade	1	31	54	45	25	156
Finance, Insurance and Real Estate	1	19	43	35	21	118
Services	0	14	24	29	15	82
Households	0	3	7	11	5	27
TOTAL	6	155	286	242	128	817

NOTE: Totals may not add due to rounding.

TABLE 2.8

URBAN AND RESIDENTIAL DEVELOPMENT
DIRECT, INDIRECT AND INDUCED EMPLOYMENT
(thousands of man-years)

	Atlantic Canada	Quebec	Ontario	Alberta	Other Western Provinces	Canada
Agriculture, Forestry and Fishing	0	0	0	0	0	0
Mining	0	0	0	0	0	0
Non-Durables Manufacturing	0	1	1	0	0	2
Durables Manufacturing	0	1	2	1	0	3
Construction	0	0	0	0	0	0
Transportation	0	0	1	0	0	2
Utilities	0	0	0	0	0	0
Trade	0	1	2	1	1	6
Finance, Insurance and Real Estate	0	0	1	0	0	1
Services	0	1	1	1	1	3
TOTAL	2	4	7	4	3	19

NOTE: Totals may not add due to rounding.

TABLE 2.9

CALCULATION OF MULTIPLIERS[a]

	Plant Construction	Plant Operation	Urban and Residential Development	Total
Income[b] Multipliers				
1. Alsands Expenditures (millions of 1980 dollars)	7,910	44,502	900	53,312
2. Direct Income[c] (millions of 1980 dollars)	4,652	31,783	663	37,098
3. Indirect Income (millions of 1980 dollars)	1,242	2,424	164	3,830
4. Induced Income (millions of 1980 dollars)	4,060	8,298	623	12,982
5. Direct & Indirect Income (millions of 1980 dollars)	5,894	34,207	828	40,928
6. Direct & Indirect & Induced Income (millions of 1980 dollars)	9,955	42,505	1,450	53,910
7. Leontieff Multiplier (line 5 ÷ line 2)	1.27	1.08	1.25	1.10
8. Keynesian Multiplier (line 6 ÷ line 2)	2.14	1.34	2.19	1.45
Employment Multipliers				
1. Direct Employment[d] (thousands of man-years)	85.30	200.70	11.00	297.00
2. Indirect Employment (thousands of man-years)	22.50	30.00	3.00	55.50
3. Induced Employment (thousands of man-years)	75.40	152.00	11.60	239.10
4. Direct & Indirect Employment (thousands of man-years)	107.80	230.70	14.00	352.50
5. Direct & Indirect & Induced Employment (thousands of man-years)	183.20	382.70	25.60	591.60
6. Leontieff Multiplier (line 4 ÷ line 1)	1.26	1.15	1.27	1.19
7. Keynesian Multiplier (line 5 ÷ line 1)	2.15	1.91	2.33	1.99

[a]See Appendix A.
[b]Income is measured by Gross Domestic Product at Market Prices.
[c]Direct income includes initial expenditures on factor incomes.
[d]Direct employment includes initial employment.

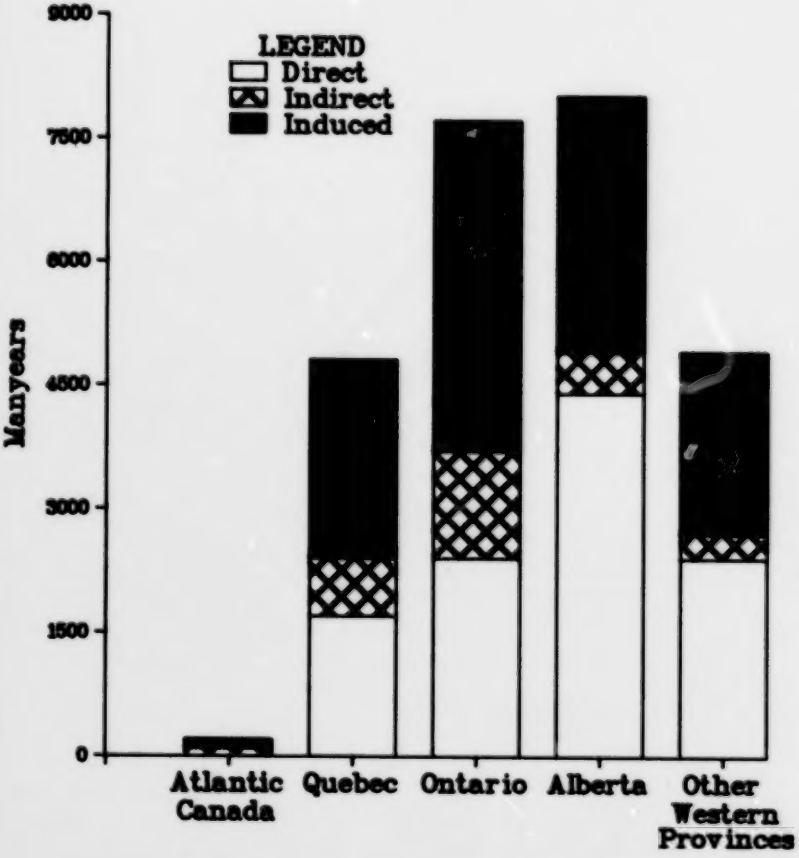

FIGURE 2.6: Urban and Residential Development Employment

$1.00 of direct income resulting from the plant construction expenditures, $2.14 of income will be created in the Canadian economy. Or, for each man-year of direct employment resulting from the construction of the tar sands plant, 2.15 man-years of employment will be created.

The multipliers for construction expenditures are significantly larger than those for plant operation expenditures. A large part of the operation expenditures are in the form of taxes, royalties and corporate profits. Because of the formulation of the model, these expenditures are part of the direct effect but do not generate any indirect or induced income. As these funds are respent by firms and governments, there will be an impact on income and employment. The derivation of a low multiplier for plant operation expenditures serves to point out the limitations of the model framework and should not be interpreted to show that plant operation expenditures will have a relatively minor impact on the Canadian economy.

Provincial multipliers cannot be derived from this data. Moreover, calculation of provincial multipliers would show significantly less impacts on the provinces than we have shown in this study. For example, an Ontario multiplier would be the ratio of direct, indirect and induced effects generated by expenditures in Ontario to the direct effects of these expenditures. This would omit indirect and induced effects in Ontario generated by expenditures in Alberta, Quebec and the other provinces.

In summary, the project will generate income as measured by Gross Domestic Product at Market Prices of almost $54 billion (1980 dollars). Of this, 69 percent will accrue to Alberta, 21 percent to Ontario and 5 percent to Quebec. There will be 592,000 man-years of employment created; 59 percent in Alberta, 23 percent in Ontario and 11 percent in Quebec. These impacts will take place over a 36-year period.

The impact in the six year construction phase will be $11.4 billion of income and 209,000 man-years of employment (figures 2.7 and 2.8). The Alberta, Ontario and Quebec shares of these are, respectively, 48, 28 and 12 percent of income and 43, 31 and 14 percent of employment.

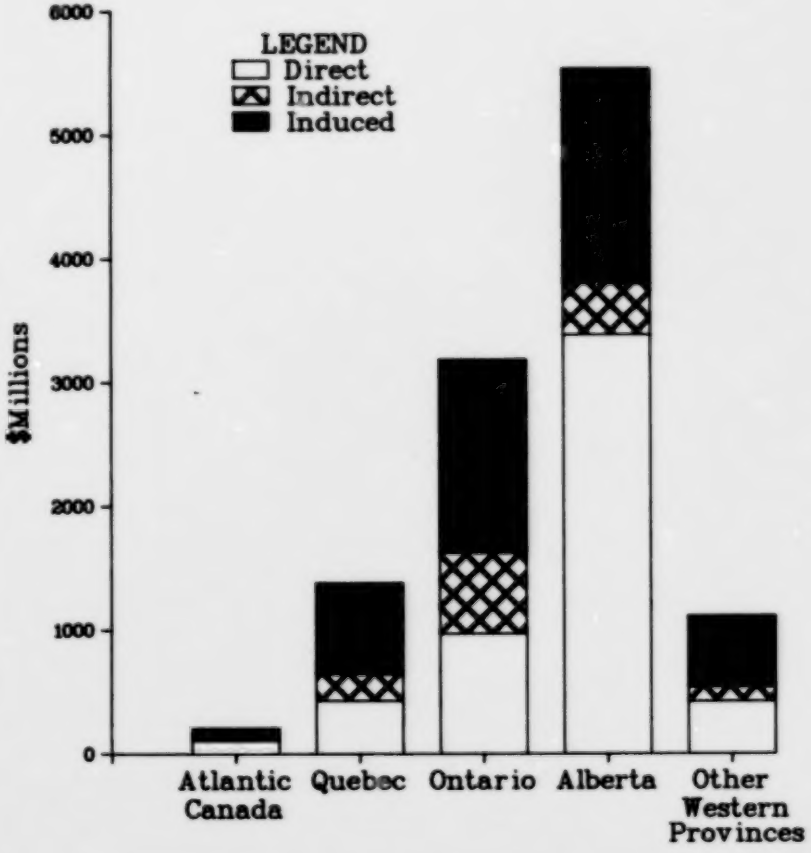

FIGURE 2.7: Project Construction Gross Domestic Product at Market Prices

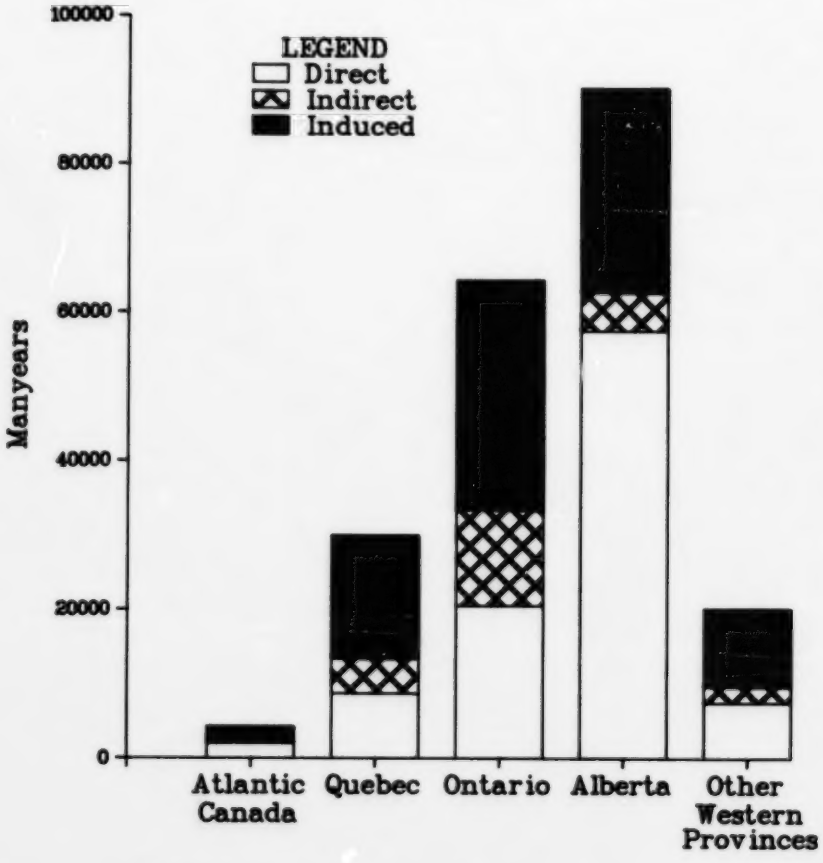

FIGURE 2.8: Project Construction Employment

APPENDIX A

METHOD OF ANALYSIS

Appendix A

METHOD OF ANALYSIS

Input-output analysis is the analytical tool we have chosen to examine the impact of the Alsands project. The most useful attribute of input-output tables is that they provide an extremely comprehensive and extensive description of interindustrial linkages. An input-output table provides a 'snapshot' of the economy; it gives a detailed view of the economy at one moment in time. Runs using the Statistics Canada Interprovincial Input-output model with the Alsands expenditure data show the impact on income and employment for each province of Canada and, within each province, the industrial distribution of the impact.

An input-output table (or model) is a set of linear formulations which show the interdependence of economic activity. The interdependence derives from the fact that the output of one industry is used as an input to another industry and the output of the latter may be used as input to the former. The full interdependence of the economy can be better appreciated by noting that an increment to the final demand for one commodity can result in increased output of virtually all industries in the economy.

The basic table of the input-output system is the transactions table. The rows of this table show how the output of each industry is distributed among other industries as intermediate goods and how final demand is allocated. The columns show the inputs to each industry of intermediate goods from other industries and factor services. Table A.1 is the 1974 Alberta transactions table in summary form.

The structure of Statistics Canada's input-output models is shown in Figure A.1. The Interprovincial Input-output model links 121 input-output models of this type: representing the 10 provinces and the territories and showing the structural and trade linkages between each pair of regions.

TABLE A.1

ALBERTA TRANSACTIONS TABLE
(millions of 1974 dollars)

	Primary Industries	Manufacturing Industries	Construction and Services	Final Demand	Exports Rest of Canada	Exports Rest of World	Total
Primary industries	199	1,166	265	47	1,854	2,973	6,504
Manufacturing industries	233	382	704	805	1,361	367	3,852
Construction and services	1,761	403	2,151	6,278	1,872	81	12,546
Imports from rest of Canada	351	612	1,526	2,144	0	0	4,634
Imports from rest of world	74	249	378	1,157	0	0	1,857
Non-competing imports	0	1	1	9	0	0	12
Unallocated imports and exports	0	0	21	-21	0	0	0
Indirect taxes less subsidies	106	27	617	512	0	0	1,262
Household income	1,448	660	3,995	1,645	0	0	7,748
Other operating surplus	2,529	415	2,940	198	0	0	6,082
Total	6,702	3,915	12,598	12,775	5,087	3,421	44,498

SOURCE: Statistics Canada Structual Analysis Division.

NOTE: Totals may not add due to rounding.

	Commodities	Industries	Final Demand							Total
			PE	FCF	Inv	GGCE	XD	XR	Less M	Less GR	
Commodities		U		F			X				q
Industries	V										g
Commodity indirect taxes Other indirect taxes Subsidies Wages and salaries Supplementary labour income Net income of unincorporated business Surplus		Y		YF							Gross Domestic Product at market Prices
Total	q′	g′	Expenditure on Gross Domestic Product at Market Prices								

SOURCE: Statistics Canada The Input-output Structure of the Canadian Economy.

NOTE:

Final Demand Categories and Imports

PE: Personal expenditure on goods and services
FCF: Fixed capital formation, business and government
Inv: Value of physical change in inventories
GGCE: Gross government current expenditure goods and services
XD: Exports of domestic goods and services
XR: Re-exports of goods and services
M: Imports of goods and services
GR: Government revenue from sale of goods and services

Notation

V: is a matrix of the values of outputs
U: is a matrix of the values of intermediate inputs
q: is a vector of the values of total commodity outputs
g: is a vector of the values of total industry outputs
Y: is a matrix of values of primary inputs of industries
F: is a matrix of the values of the following categories of final demand: PE, FCF, Inv and GGCE
YF: is a matrix of the values of the primary inputs associated with final demand categories
X: is a matrix of the value of domestic exports and re-exports

FIGURE A.1: THE ACCOUNTING FRAMEWORK OF CANADIAN INPUT-OUTPUT TABLES

An integral part of input-output analysis is the determination of direct, indirect and induced effects of project expenditures. Direct effects are the 'first round' effects on industries directly supplying goods to meet the initial increment in final demand. Indirect effects are the second, third and all subsequent rounds. The indirect effects will generally permeate the economy, causing increased output and employment in many industries. Induced effects are those generated by the spending of household income. Included in household income are wages and salaries, supplementary labour income and net income of unincorporated business. Part of the initial expenditures will be paid to households. In addition, there will be payments to households as part of the indirect effects. As these funds are respent, new demands will be placed on industry. Household income resulting from this industrial output will also be respent.

A.1 Assumptions

All coefficients in the Statistics Canada Inter-provincial Input-output model are simple proportions based on the 1974 structure of the Canadian economy. This assumption of simple proportionality implies that marginal changes are equal to average changes. The technical coefficients indicate a production process of fixed relations between inputs and outputs which implies constant returns to scale (to double output all inputs must be doubled). Further, it implies that the elasticity of substitution is zero; that is, that the production process cannot be adjusted, for example, to use more of cheaper commodities or factors when their relative prices decrease. There is no technical change. Technology is embodied in the coefficients and cannot be altered. The market share assumption is that demand for commodities is allocated among industries by a fixed set of market shares. Included is an import component; both imports of commodities from outside the province and from outside the country are a fixed share of total provincial demand.

The input-output model is static; that is, time is not explicit. The use of the model involves the comparison of output, income and employment before and after the construction and operation of the Alsands project. Neither the amount of time for the effects to be fully worked out,

nor the time paths of the relevant variables are obtained from the model. Only a total impact is calculated; annual variations which may occur during the construction and operation phases are dissembled.

Implicit in the model is the absence of supply constraints. Supply is perfectly elastic. Employment comes from the unemployed, new labour force entrants or immigration. Raw materials are either available domestically in limitless quantities or can be imported. An implication is that the model says nothing about inflationary effects created by excess construction industry demands. The Canadian labour market has been quite slack since 1976, with an unemployment rate exceeding 7 percent each year. However, in Alberta the labour market has been tightening since 1978. Last year (1980) the unemployment rate averaged 3.7 percent; thus, substantial migration to Alberta may be necessary for this assumption to hold.

The input-output model deals only with flows; stocks are not represented. It is assumed that increased production can be attained with the existing capital stock. Capacity must be available so that no investment need take place.

In addition to the standard assumptions cited above, there are myriad assumptions required in the actual calculation of the input-output model coefficients. Many of these merely reflect the model builder's judgement and are adequately documented in Statistics Canada publications.[1]

The data provided by Alsands embodies many assumptions. These are documented in detail in Appendix B. The most important assumption concerns the mobility of labour.

It has been assumed that the Alsands project will require workers from other provinces during the construction phase of the project. To build the urban and residential development, 50 percent of the employees will arrive from out of province. For the tar sands plant construction itself, 29 percent of the work force will be non- Albertan. Only 4 percent will be non-Canadian. The Alsands assumption in this

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[1]Statistics Canada, The Input-Output Structure of the Canadian Economy.

regard is based on the Syncrude project experience. In contrast, the federal Department of Manpower and Immigration estimates only 15 percent of the required work force will need to come from out of province. If the Alsands and Imperial Oil Cold Lake projects proceed concurrently, the 29 percent estimate will likely be low. This is, of course, a very important factor which determines much of the geographic distribution of the economic impact. For the operating phase, all employees are assumed to be Alberta residents.

A.2 Definition of Impact Measures

A.2.1 Gross Domestic Product

This indicator is the most comprehensive measure of the impact on Canada's provinces produced by the input-output model. Gross Domestic Product (GDP) measures the value of production arising within the geographical boundaries of a region, irrespective of whether the factors of production involved are non-resident. In contrast, Gross National Product (GNP) measures the production of residents only and excludes the production of non-resident factors. Information to clearly distinguish between the production of resident and non-resident factors is generally inadequate except at the national level. Furthermore, when defining the production of each industry group, the availability of industry statistics does not permit a distinction to be made between resident and non-resident factors.

Gross Domestic Product at Factor Cost measures GDP as the value of production. Gross Domestic Product at Market Prices includes indirect taxes and subsidies, and is thus the value of goods and services sold. Table A.2 shows the relationships between GNP and GDP at Market Prices and Factor Cost.

TABLE A.2

RELATIONSHIP BETWEEN GROSS NATIONAL PRODUCT AT MARKET PRICES AND GROSS DOMESTIC PRODUCT AT MARKET PRICES AND AT FACTOR COST

	1980 (millions of dollars)
Gross National Product at Market Prices	288,136
Deduct:	
Investment income received from non-residents	-2,989
Add:	
Investment income paid to non-residents	11,300
Gross Domestic Product at Market Prices	296,447
Deduct:	
Indirect taxes less subsidies	-29,471
Residual error of estimate	-365
Gross Domestic Product at Factor Cost	266,611

SOURCE: Statistics Canada, National Income and Expenditure Accounts.

GDP is a measure of the unduplicated value of production. It is the gross value of production of firms less the purchases of goods and services from other firms. This difference between the value of outputs and the value of inputs is called value added. Value added may also be seen as payment to factors of production such as wages and salaries.

A.2.2 Gross Output

Gross Output as produced by the Statistics Canada input-output models is a measure of 'sales' or 'shipments' and as such is the gross value of goods and services sold by each industry. It is the value of intermediate goods and services (purchases from other firms) plus payments to

factors of production. Thus, when calculating total output for a region, a summation of the gross outputs of industry results in double counting of intermediate goods. Consequently, the Gross Output measure of activity will overestimate the true impact on the economy.

A.2.3 Employment

The employment statistics are cited in man-years. The input-output model calculates employment by multiplying 1979 provincial job-to-gross output ratios and the 1974 gross output estimates.

A.2.4 Multipliers

The term 'multiplier' denotes a ratio which quantifies the extent to which an initial expenditure within a region generates additional expenditures in that region. This ratio is calculated by dividing the ultimate increase in expenditure by the initial autonomous expenditure. A multiplier can be calculated for employment or for an income measure such as Gross Domestic Product at Market Prices.

The impact of the expenditures can be disaggregated into three effects: direct, indirect and induced. The direct effects are those which involve particular industries whose output is directly stimulated by the initial expenditure. Indirect effects occur in those industries that supply inputs to the industries directly stimulated and also include the subsequent effects of supplying these industries until the full interdependent structure of the economy is affected. The induced effects are the increases in economic activity generated by the spending of household income composed of wages and salaries, supplementary labour income and net income of unincorporated business. There are two basic types of multipliers which can be calculated: Leontieff and Keynesian. Induced effects are included in the Keynesian but not in the Leontieff multiplier.

When using an open, static input-output system, a Leontieff multiplier may be calculated. This multiplier provides a measure of the income or employment created in the economy as a result of initial purchases of a commodity or group of commodities. It considers not only this direct impact, but also the impact on income or employment generated

by other industries which supply goods to the industries originally affected. The indirect impacts permeate the economy as the interdependencies of production induce production in virtually all industries. Increases in output which may occur as a result of the spending of factor incomes are not taken into account.

The effect of household income on output and employment are part of the Keynesian multiplier. In the closed version of the static input-output model, this income is respent. This respending of funds generates further income and industrial output in addition to that calculated by the open version of the model. The Keynesian multiplier is thus a broader measure of economic impact than the Leontieff multiplier because it takes into account the respending of household income as well as the indirect effects of the initial expenditure.

Within the household sector only wages and salaries, supplementary labour income and net income of the unincorporated business, are respent. Household income which may arise from the payment of interest and dividends or government transfer payments are not included. Factor incomes such as rent and profit are not respent, nor is tax revenue. The net result of these omissions is that the estimate of the Keynesian multiplier produced by the model is likely to be lower than the 'true' Keynesian multiplier.

The multipliers we report in this study are Gross Domestic Product multipliers; both the Leontieff and Keynesian types are calculated. The Gross Domestic Product multiplier is the ratio of the final increase in GDP to the direct increase in GDP.

The Leontieff GDP multiplier is the ratio of the final increase in GDP, as calculated by the open version of the input-output model, to the direct increase in GDP. As such, it is the ratio of the direct plus indirect effects to the direct effects. The Keynesian GDP multiplier, from the closed version of the model, is the ratio of direct, indirect and induced effects to the direct effect. GDP is in all cases valued at market prices. For example, the steps in calculating the plant construction income multipliers of Table 2.9 are as follows. From the Alsands expenditures of $7,910 (millions of 1980 dollars) subtract imports of $1,452.

The residual, $6,458, is deflated to $3,671 in 1974 dollars using individual commodity deflators (see Appendix B). The $3,671 is comprised of factor incomes of $1,901 and goods and services of $1,770. The expenditure of $1,770 directly results in Gross Domestic Product at Market Prices (GDPMP) of $792 (see Table C.1, Appendix C, which is in 1980 dollars). The difference between $1,770 and $792 are the purchases of intermediate goods and services (including imports) required to produce the $1,770 of initial goods and services. Direct GDPMP is the sum of $1,901 and $792 which equals $2,694, or $4,652 in 1980 dollars (using 1.727 as the deflator). This is line 2 of Table 2.9. The open version of the input-output model calculates direct (including initial factor incomes) plus indirect GDPMP of $3,413 ($5,894 in 1980 dollars shown on line 5). The Leontieff multiplier is the ratio of $5,894 to $4,652 or 1.27 (line 7). The closed version of the input-output model estimates direct, indirect and induced GDPMP of $5,764 which is $9,955 in 1980 dollars (line 6). The Keynesian multiplier is the quotient $9,955 ÷ $4,652 or 2.14 (line 8). Similar multipliers can be calculated using employment instead of Gross Domestic Product.

In this study we only report multipliers at the national level. It is possible to compute multipliers for provinces using the Statistics Canada Interprovincial Input-output model. However, such calculations would not show as large an impact on the provinces as we have shown in this study, because of provincial specialization in production and the concomitant large volume of interprovincial trade. Such an analysis would show, for example, the impact on Ontario of expenditures made in Ontario but would exclude the impact on Ontario of expenditures made in Alberta and the other provinces.

APPENDIX B

INPUT DATA

Appendix B

INPUT DATA

There is normally some difficulty in assigning expenditures to input-output categories. In some cases, expenditures for a group of items must be arbitrarily assigned to one category. This may occur if there is no detailed breakdown of the expenditures available, in which case all are assigned to the category in which most belong. Some expenditures for commodities are so small that they are lumped together with other commodities. This can result in a misallocation which does not affect results.

B.1 Plant Construction Expenditures

The cost data for construction of the tar sands plant were compiled by the Joint Venture Management Contractor (JVMC) (Bechtel Canada Ltd., Loram International Ltd., and Monenco Limited), in conjunction with Alsands staff. Alsands staff assigned these expenditures to the Statistics Canada input-output categories. The total cost to build the plant is expected to be $7,910 million (end-1980 dollars).

It is estimated that plant construction will require 53,000 man-years of employment. Workers for the project are expected to come from all provinces although predominantly from Alberta (71 percent). Less than 4 percent of the construction workers will be immigrants. The distribution of employment by province is based on the Syncrude experience. If, however, Imperial Oil's Cold Lake project proceeds at the same time as the Alsands project, it is likely that more employees will be coming from provinces other than Alberta.

Supplementary labour income (burden) was calculated as 25 percent of wages and salaries.

Other operating surplus was calculated as 20 percent of the gross value of subcontracts by province. Also included in this category was the payment to the JVMC for the overall management of the project.

Tax, transportation and trade margins were calculated by the input-output model in order to convert the data from purchasers valuation to producers value. Transportation margins were augmented by one percentage point to account for additional costs to ship the goods to the remote plant site location in northeastern Alberta.

The data as provided by Alsands are in end-1980 dollars and were deflated to 1974 dollars for use in the input-output model (see Table B.1). Table B.2 shows the deflating factors used for each commodity.

B.2 Plant Operating Expenditures

Plant operating costs were provided by Alsands. The cost estimate is $44,502 million (end-1980 dollars) spanning a thirty-year period. The plant is assumed to begin operation in 1988. The two largest components of operating cost are royalties to the Alberta government of $10,873 million (end-1980 dollars) and taxes of $11,109 million (end-1980 dollars). Of the tax payments, 57 percent is federal corporate income tax, 16 percent is provincial corporate income tax, and 26 percent is Petroleum and Gas Revenue Tax. Profits to Alsands are $5,789 million (end 1980 dollars).

After-tax profits were allocated to three provinces: British Columbia, Alberta and Ontario. Alberta's share was 40 percent, Ontario's 22 percent, British Columbia's 1 percent. The residual 37 percent was allocated to the foreign sector. This implies that $2,113 million (end-1980 dollars) of after-tax profits leave Canada as dividends. The allocation of these funds to the provinces and foreign countries was computed by Alsands, based primarily on the location of the head office and on foreign ownership rates.

Supplementary labour income (burden) was computed as 25 percent of gross wages and salaries, all of which was paid to Alberta residents.

TABLE B.1

PLANT CONSTRUCTION
FINAL DEMAND EXPENDITURES
(MILLIONS OF 1974 DOLLARS)

COMMODITIES	NFLD	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	CANADA	IMPORTS	TOTAL
NATURAL GAS	0	0	0	0	0	0	0	6	0	6	0	6
SERVICES INCIDENTAL TO MINING	0	0	0	0	1	0	0	5	1	6	0	6
PLASTIC PIPE FITTINGS AND SHEET	0	0	0	1	2	0	0	3	0	6	0	6
PREFABRICATED WOOD STRUCTURES	0	0	0	4	7	0	0	50	0	61	0	61
OFFICE FURNITURE	0	0	0	0	3	0	0	1	0	4	0	4
STEEL PIPES AND TUBES	0	0	0	6	48	0	0	30	0	85	46	131
TANKS	0	0	0	16	26	0	0	14	0	57	46	102
BEAMS AND OTHER STRUCTURAL STEEL	0	0	0	1	32	0	0	15	0	48	3	50
PREFABRICATED METAL STRUCTURES	0	0	0	13	49	0	0	16	0	79	41	120
FUEL BURNING EQUIPMENT	0	0	0	2	17	0	0	9	0	28	13	41
PUMPS, COMPRESSORS AND BLOWERS	0	0	0	18	37	0	0	6	0	60	22	82
CONVEYORS, HOISTING MACHINERY	0	0	0	0	45	0	0	5	0	50	66	115
INDUSTRIAL TRUCKS, TRACTORS, TRAILERS	0	0	0	0	19	0	0	0	0	19	32	51
INDUSTRY SPECIFIC MACHINERY	0	0	0	27	141	0	0	56	0	224	223	447
POWER DRIVEN HAND TOOLS	0	0	0	0	3	0	0	8	0	12	18	30
OFFICE MACHINES AND EQUIPMENT	0	0	0	0	0	0	0	1	0	1	3	3
COMMUNICATIONS EQUIPMENT	0	0	0	1	1	0	0	1	0	3	4	7
INDUSTRIAL ELECTRIC EQUIPMENT	0	0	0	10	42	0	0	11	0	62	44	107
CONCRETE BASIC PRODUCTS	0	0	0	0	3	0	0	17	0	21	2	23
WOOL AND THERMAL INSULATION MATERIALS	0	0	0	2	9	0	0	2	0	12	14	26
NAPHTHA	0	0	0	0	0	0	0	15	0	15	0	15
INDUSTRIAL CHEMICAL PREPARATIONS	0	0	0	0	4	0	0	0	0	4	0	4
MEASURING, CONTROL INSTRUMENTS	0	0	0	5	17	0	0	4	0	26	17	43
NON-RESIDENTIAL CONSTRUCTION	0	0	0	0	0	0	0	6	0	6	0	6
GAS AND OIL FACILITY CONSTRUCTION	0	0	0	25	98	0	0	104	3	230	115	345
AIR TRANSPORTATION	0	0	0	1	2	1	0	9	1	14	1	15
TRUCK TRANSPORTATION	0	1	1	3	4	1	0	4	2	15	2	17
BUS TRANSPORTATION	0	0	0	0	5	5	0	32	0	41	0	41
PIPELINE TRANSPORTATION	0	0	0	0	0	0	0	4	0	4	0	4
ELECTRIC POWER	0	0	0	0	0	0	0	30	0	30	0	30
GAS DISTRIBUTION	0	0	0	0	0	0	0	6	0	6	0	6
WHOLESALING MARGIN	0	0	0	17	83	0	0	40	0	140	0	140
REPAIR SERVICE	0	0	0	9	14	0	0	24	0	48	5	52
RETAILING MARGIN	0	0	0	1	3	0	0	2	0	6	0	6
OTHER REAL ESTATE AND FINANCIAL SERVICES	0	0	0	1	3	1	0	98	1	103	1	104
INSURANCE AND WORKERS COMPENSATION	0	0	0	0	0	0	0	12	0	12	0	12
OTHER RENT	0	0	0	0	0	0	0	10	0	10	0	10
SERVICES TO BUSINESS MANAGEMENT	0	0	0	2	5	0	0	6	1	14	1	15
ACCOMMODATION SERVICES	0	0	0	1	1	0	0	3	1	4	1	5
MEALS	0	0	0	0	1	0	0	109	0	109	0	109
TRANSPORTATION MARGINS	0	0	0	5	23	0	0	14	0	41	0	41
COMMODITY INDIRECT TAXES	0	0	0	4	19	0	0	11	0	34	0	34
OTHER INDIRECT TAXES	0	0	0	0	0	0	0	14	0	14	0	14
WAGES AND SALARIES	13	21	16	91	114	10	9	961	101	1336	44	1380
SUPPLEMENTARY LABOUR INCOME	3	5	4	23	28	2	2	240	25	333	12	345
OTHER OPERATING SURPLUS	0	0	0	13	32	0	0	187	0	232	16	249
TOTAL	16	26	21	302	941	18	12	2198	135	3671	790	4460

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE B.2

PLANT CONSTRUCTION
COMMODITY DEFLATORS, 1974-1980
(1980 = 1.0)

Code	Commodity	Deflator
039	Natural Gas	0.181
051	Services Incidental to Mining	0.521
135	Plastic Pipe Fittings and Sheet	0.615
198	Prefabricated Wood Structures	0.586
205	Office Furniture	0.578
250	Steel Pipes and Tubes	0.484
273	Tanks	0.448
276	Beams and Other Structural Steel	0.636
278	Prefabricated Metal Structures	0.658
303	Fuel Burning Equipment	0.600
317	Pumps, Compressors and Blowers	0.571
318	Conveyors, Hoisting Machinery	0.557
319	Industrial Trucks, Tractors, Trailers	0.528
323	Industry Specific Machinery	0.542
324	Power Driven Hand Tools	0.564
329	Office Machines and Equipment	0.766
359	Communications Equipment	0.578
368	Industrial Electric Equipment	0.593
377	Concrete Basic Products	0.557
387	Wool and Thermal Insulation Materials	0.557
400	Naphtha	0.571
414	Industrial Chemical Preparations	0.600
486	Compound Catalysts	0.564
499	Measuring, Control Instruments	0.492
524	Non-Residential Construction	0.564
526	Gas and Oil Facility Construction	0.535
530	Air Transportation	0.521
536	Truck Transportation	0.542
537	Bus Transportation	0.564
546	Electric Power	0.470
551	Repair Service	0.528
555	Other Real Estate and Financial Services	0.629
556	Insurance and Workers Compensation	0.477
559	Other Rent	0.528
566	Services to Business Management	0.521
569	Accommodation Services	0.542
570	Meals	0.549
580	Equipment Maintenance Supplies	0.577
585	Travelling and Entertainment	0.537
598	Other Indirect Taxes	0.549
599	Wages and Salaries	0.611
600	Supplementary Labour Income	0.611
602	Other Operating Surplus	0.611

SOURCE: Statistics Canada Structural Analysis Division.

Because the data provided by Alsands were based on purchased prices at the plant site, adjustments for transportation, trade and tax margins had to be made. These were performed by the input-output model itself based on average 1974 margins. Due to the remote site of the Alsands plant, a further one percentage point was added to the transportation margin.

For input into the input-output model, the data needed to be converted to 1974 dollars. The input data is in Table B.3. The factors for deflating the data from 1980 dollars to 1974 dollars are shown in Table B.4.

B.3 Urban and Residential Development Construction Expenditures

Industrial Economics (HRA) Ltd. of Calgary provided a breakdown of the urban and residential development construction expenditures.[1] The planned development consists of 1,027 acres of land of which 822 acres are serviced land. The development will be home to 4,353 households for a total population of 13,563 persons. Housing will consist of 339 single family dwellings, 855 link houses, 1,303 town houses and 1,856 apartments. There will be four elementary schools, two junior high schools and one senior high school. In addition to various commercial buildings, there will be a hospital, fire hall, police station, church, library, hotel, motel and airport. Other facilities include refuse disposal, water treatment and sewage treatment facilities. Recreational facilities include an arena, pool, curling rink, marina, 9-hole golf course, parks and a campground. In addition, there is provision for a 1,000-man construction camp.

The total cost of constructing the development is estimated at $900 million (end-1980 dollars). Of this, 45 percent will be borne by Alsands, the rest by other parties.

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[1] Industrial Economics (HRA) Ltd., Alsands Energy Ltd. Urban and Residential Department Regional Capital Cost Estimate and Economic Impact for New Townsite, Calgary (1981).

TABLE 8.3

PLANT OPERATION
FINAL DEMAND EXPENDITURES
(MILLIONS OF 1974 DOLLARS)

COMMODITIES	NFLD	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	CANADA	IMPORTS	TOTAL
NATURAL GAS	0	0	0	0	0	0	0	59	0	59	0	59
OFFICE FURNITURE	0	0	0	0	0	0	0	0	0	0	0	0
ADVERTISING, PRINT MEDIA	0	1	1	2	3	1	1	5	1	14	3	17
STEEL PIPES AND TUBES	0	0	0	0	13	0	4	0	0	18	1	19
INDUSTRIAL TRUCKS, TRACTORS, TRAILERS	0	0	0	0	76	0	0	0	0	76	144	221
INDUSTRY SPECIFIC MACHINERY	0	0	0	35	197	0	0	74	0	306	300	606
INDUSTRIAL ELECTRIC EQUIPMENT	0	0	0	0	1	0	0	1	0	2	1	3
INDUSTRIAL CHEMICAL PREPARATIONS	0	0	0	0	38	0	0	0	0	38	70	108
CAUSTIC SODA	0	0	0	0	24	0	0	0	0	24	0	24
BOILER CHEMICALS	0	0	0	0	60	0	0	0	0	60	0	60
COMPOUND CATALYSTS	0	0	0	0	174	0	0	0	0	174	44	218
GAS AND OIL FACILITY CONSTRUCTION	0	0	0	0	0	0	0	154	4	157	89	246
AIR TRANSPORTATION	0	0	0	5	6	2	1	8	2	22	5	27
TRUCK TRANSPORTATION	1	1	1	11	14	3	3	6	6	47	11	57
BUS TRANSPORTATION	0	0	0	0	0	0	0	149	0	149	0	149
PIPELINE TRANSPORTATION	0	0	0	0	0	0	0	41	0	41	0	41
ELECTRIC POWER	0	0	0	0	0	0	0	246	0	246	0	246
GAS DISTRIBUTION	0	0	0	0	0	0	0	64	0	64	0	64
WHOLESALING MARGIN	0	0	0	13	92	0	0	27	0	132	0	132
REPAIR SERVICE	0	0	0	78	78	0	0	166	0	322	45	367
RETAILING MARGIN	0	0	0	0	4	0	0	1	0	5	0	5
OTHER REAL ESTATE AND FINANCIAL SERVICES	0	1	1	5	6	1	1	781	3	798	4	802
INSURANCE AND WORKERS COMPENSATION	0	0	0	0	0	0	0	48	0	48	0	48
ROYALTIES ON NATURAL RESOURCES	0	0	0	0	0	0	0	3901	0	3901	0	3901
SERVICES TO BUSINESS MANAGEMENT	0	0	0	8	20	0	0	10	2	40	0	40
ACCOMMODATION SERVICES	0	0	0	2	3	1	1	9	1	16	2	18
MEALS	0	0	0	1	1	0	0	6	1	8	1	9
BUSINESS AND PERSONAL SERVICES	0	0	0	1	1	0	0	1	1	3	1	4
TRANSPORTATION MARGINS	0	0	0	2	28	0	0	4	0	34	0	34
COMMODITY INDIRECT TAXES	0	0	0	1	9	0	0	4	0	15	0	15
OTHER INDIRECT TAXES	0	0	0	0	0	0	0	423	0	423	0	423
WAGES AND SALARIES	0	0	0	0	0	0	0	3044	0	3044	0	3044
SUPPLEMENTARY LABOUR INCOME	0	0	0	0	0	0	0	761	0	761	0	761
OTHER OPERATING SURPLUS	0	0	0	0	2046	0	0	4839	78	6963	3334	10297
TOTAL	1	2	2	163	2898	7	11	14830	97	18011	4053	22064

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE B.4

PLANT OPERATION
COMMODITY DEFLATORS, 1974-1980
(1980 = 1.0)

Code	Commodity	Deflator
039	Natural Gas	0.181
205	Office Furniture	0.578
232	Advertising, Print Media	0.564
250	Steel Pipes and Tubes	0.484
319	Industrial Trucks, Tractors, Trailers	0.528
323	Industry Specific Machinery	0.542
329	Office Machines and Equipment	0.766
359	Communications Equipment	0.578
368	Industrial Electric Equipment	0.593
414	Industrial Chemical Preparations	0.600
424	Caustic Soda	0.412
485	Boiler Chemicals	0.506
486	Compound Catalysts	0.564
526	Gas and Oil Facility Construction	0.535
530	Air Transportation	0.521
536	Truck Transportation	0.542
537	Bus Transportation	0.564
546	Electric Power	0.470
551	Repair Service	0.528
555	Other Real Estate and Financial Services	0.629
556	Insurance and Workers Compensation	0.477
560	Royalties on Natural Resources	0.359
566	Services to Business Management	0.521
569	Accommodation Services	0.542
570	Meals	0.549
576	Business and Personal Services	0.521
580	Equipment Maintenance Supplies	0.577
598	Other Indirect Taxes	0.549
599	Wages and Salaries	0.611
600	Supplementary Labour Income	0.611
602	Other Operating Surplus	0.611

SOURCE: Statistics Canada Structural Analysis Division.

Land purchases accounting for $4 million (end-1980 dollars) are omitted because they represent a transfer of assets. The productive activity associated with the transfer is very small.

Due to the remote site location in northeastern Alberta, Industrial Economics (HRA) Ltd. assumed that construction costs would be higher by 32 percent than equivalent construction in Edmonton. This 32 percent accounts for higher labour costs and inefficiencies as well as increased transportation costs. The allocation assumption for transportation costs is that materials supplied in Alberta are transported by truck, and materials supplied out of province are transported by rail. The transportation margins on the purchase price of the commodities from the producing province to Alberta are calculated by the input-output model. The model also computes the portions of the purchase value which are indirect taxes and wholesale and retail margins.

The data as provided by Alsands are in end-1980 dollars. For input into the input-output model the data were converted to 1974 dollars (Table B.5). Table B.6 shows the factors for deflating each commodity.

There are several important assumptions concerning the labour cost of the project. Of the workers constructing the urban-residential development, 50 percent are assumed to be Alberta residents. The rest are assumed to migrate from other provinces: British Columbia, Saskatchewan, Manitoba, Ontario and Quebec will each supply 10 percent of the work force. Eighty percent of labour costs for administration and project management are assumed attributable to Alberta residents with the other 20 percent split evenly between Ontario and British Columbia. There will be no immigrant workers from outside Canada in the project labour force. Twenty-three percent of labour costs is assumed to be supplementary labour income (burden).

TABLE B 5

URBAN AND RESIDENTIAL DEVELOPMENT
FINAL DEMAND EXPENDITURES
(MILLIONS OF 1974 DOLLARS)

COMMODITIES	QUE	ONT	MAN	SASK	ALTA	BC	CANADA	IMPORTS	TOTAL
CARPETING	3	2	0	0	0	0	5	0	5
LUMBER AND TIMBER	0	0	0	0	12	6	19	0	19
HOUSEHOLD FURNITURE	4	3	0	0	0	0	7	0	7
OFFICE FURNITURE	1	1	0	0	0	0	2	0	2
SPECIAL PURPOSE FURNITURE	1	1	0	0	0	0	2	0	2
MISCELLANEOUS FURNITURE AND FIXTURES	1	1	0	0	0	0	2	0	2
STEEL BARS AND RODS	3	5	0	0	1	0	8	0	8
ARCHITECTURAL METAL PRODUCTS	3	5	0	0	1	1	11	0	11
DOMESTIC EQUIPMENT	0	1	0	0	0	0	1	0	1
WARM AIR HEATING EQUIPMENT	2	4	0	0	1	0	8	0	8
PIPE FITTINGS, NOT IRON AND STEEL	4	16	0	0	0	3	22	0	22
INDUSTRY SPECIFIC MACHINERY	0	3	0	0	0	0	3	22	26
SMALL DOMESTIC ELECTRIC APPLIANCES	2	4	0	0	0	0	6	0	6
DOMESTIC REFRIGERATORS AND FREEZERS	0	1	0	0	0	0	1	0	1
DOMESTIC GAS RANGES AND ELECTRIC STOVES	0	1	0	0	0	0	1	0	1
CONDUIT, SWITCHES, WIRING DEVICE	5	8	0	0	3	0	15	0	15
CONCRETE BASIC PRODUCTS	0	0	0	0	8	0	8	0	8
READY-MIX CONCRETE	0	0	0	0	7	0	7	0	7
PLASTER AND GYPSUM PRODUCTS	1	1	0	0	2	1	6	0	6
ASPHALT AND COAL OILS	0	0	0	0	3	2	4	0	4
PAINTS AND RELATED PRODUCTS	1	2	0	0	0	0	3	0	3
RUBBER AND PLASTIC TILING	3	3	0	0	0	0	6	0	6
MISCELLANEOUS FABRICATED MATERIALS	3	3	0	0	2	1	9	0	9
OTHER ENGINEERING CONSTRUCTION	0	1	0	0	2	0	3	0	3
BUS TRANSPORTATION	0	0	0	0	1	0	1	0	1
WHOLESALING MARGIN	5	11	0	0	6	3	25	0	25
RETAILING MARGIN	3	5	0	0	0	0	9	0	9
TRANSPORTATION MARGINS	2	4	0	0	3	1	10	0	10
COMMODITY INDIRECT TAXES	3	4	0	0	2	1	10	0	10
WAGES AND SALARIES	20	24	20	19	135	24	241	0	241
SUPPLEMENTARY LABOUR INCOME	4	5	4	4	31	5	55	0	55
TOTAL	74	117	24	23	221	50	510	22	533

NOTE TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE B.6

URBAN AND RESIDENTIAL DEVELOPMENT
COMMODITY DEFLATORS
(1980 = 1.0)

Code	Commodity	Deflator
170	Carpeting	0.646
191	Lumber and Timber	0.535
204	Household Furniture	0.586
205	Office Furniture	0.578
206	Special Purpose Furniture	0.600
207	Miscellaneous Furniture and Fixtures	0.578
239	Steel Bars and Rods	0.607
279	Architectural Metal Products	0.568
299	Domestic equipment	0.578
301	Warm Air Heating Equipment	0.542
308	Pipe Fittings, Not Iron and Steel	0.602
323	Industry Specific Machinery	0.542
353	Small Domestic Electric Appliances	0.578
355	Domestic Refrigerators and Freezers	0.586
356	Domestic Gas Ranges and Electric Stoves	0.571
372	Conduit, Switches, Wiring Device	0.607
377	Concrete Basic Products	0.557
379	Ready-Mix Concrete	0.506
386	Plaster and Gypsum Products	0.593
401	Asphalt and Coal Oils	0.463
409	Paints and Related Products	0.549
511	Rubber and Plastic Tiling	0.607
518	Miscellaneous Fabricated Materials	0.586
529	Other Engineering Construction	0.535
537	Bus Transportation	0.564
599	Wages and Salaries	0.611
600	Supplementary Labour Income	0.611

SOURCE: Statistics Canada Structural Analysis Division.

NOTE: 1981 = 1.00.0

APPENDIX C

DETAILED TABLES

Appendix C

DETAILED TABLES

The tables included in this appendix show the provincial-industrial breakdown of Gross Domestic Product, employment and gross output of the Alsands project expenditures on goods and services. Excluded from the GDP tables are those initial expenditures on factor services: wages and salaries, supplementary labour income and other operating surplus. Excluded from the employment tables is the initial employment: the employees who construct the tar sands plant and the urban and residential development, and the Alsands employees who operate the plant. Also included are two tables showing the deflators for converting the gross domestic product and gross output estimates from 1974 dollars to 1980 dollars.

TABLE C.1

PLANT CONSTRUCTION
DIRECT GROSS DOMESTIC PRODUCT AT FACTOR COST
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	CANADA
AGRICULTURE	0	0	0	0	0	0	0	0	0
FORESTRY	0	0	0	0	0	0	0	0	0
METAL MINES	0	0	0	0	0	0	0	0	1
MINERAL FUELS	0	0	0	0	0	0	12	0	12
NON-METAL MINES AND QUARRIES	0	0	0	0	0	0	0	0	1
SERVICES INCIDENTAL TO MINING	0	0	0	2	0	0	27	3	33
FOOD AND BEVERAGES	0	0	0	0	0	0	0	0	0
TOBACCO PRODUCTS	0	0	0	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	0	1	2	0	0	1	0	4
LEATHER PRODUCTS	0	0	0	0	0	0	0	0	0
TEXTILES	0	0	0	1	0	0	0	0	1
KNITTING MILLS	0	0	0	0	0	0	0	0	0
CLOTHING	0	0	2	5	0	0	0	0	0
WOOD PRODUCTS	0	0	0	3	0	0	25	0	32
FURNITURE AND FIXTURES	0	0	1	2	0	0	2	0	5
PAPER AND ALLIED PRODUCTS	0	0	0	0	0	0	1	0	4
PRINTING AND PUBLISHING	0	0	6	41	0	0	0	0	0
PRIMARY METALS	0	0	25	94	0	0	25	0	72
METAL FABRICATING	0	0	27	126	0	0	41	0	159
MACHINERY	0	0	0	8	0	0	36	0	190
TRANSPORTATION EQUIPMENT	0	0	7	38	0	0	1	0	10
ELECTRICAL PRODUCTS	0	0	2	11	0	0	10	0	55
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	0	0	16	0	29
PETROLEUM AND COAL PRODUCTS	0	0	0	3	0	0	2	0	2
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	0	0	2	0	2
MISCELLANEOUS MANUFACTURING	0	0	4	12	0	0	3	0	5
CONSTRUCTION	0	0	11	43	0	0	50	1	18
TRANSPORTATION AND STORAGE	1	1	4	10	8	0	46	2	71
COMMUNICATION	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	69	0	70
WHOLESALE TRADE	0	0	21	100	0	0	54	0	176
RETAIL TRADE	0	0	7	13	0	0	25	0	45
FINANCE, INSURANCE, AND REAL ESTATE	0	0	1	3	1	0	118	1	123
EDUCATION AND HEALTH SERVICES	0	0	0	0	0	0	0	0	0
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	0	0	1	0	1
SERVICES TO BUSINESS MANAGEMENT	0	0	3	8	0	0	8	1	20
ACCOMMODATION AND FOOD SERVICES	0	0	0	1	0	0	103	1	105
PERSONAL SERVICES	0	0	1	1	0	0	3	0	5
TOTAL	1	1	125	526	8	0	680	10	1351

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.2

PLANT CONSTRUCTION
DIRECT AND INDIRECT GROSS DOMESTIC PRODUCT AT FACTOR COST
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	0	0	0	1	2	1	2	13	0	0	19
FORESTRY	0	0	0	0	1	1	0	0	1	4	0	8
FISHING, HUNTING AND TRAPPING	0	0	0	0	0	0	0	0	0	0	0	1
METAL MINES	0	0	0	0	9	13	1	0	0	1	0	24
MINERAL FUELS	0	0	0	0	0	0	0	2	87	1	0	91
NON-METAL MINES AND QUARRIES	0	0	0	0	1	2	0	0	1	0	0	3
SERVICES INCIDENTAL TO MINING	0	0	0	0	8	71	0	0	111	5	0	196
FOOD AND BEVERAGES	0	0	0	0	1	2	0	0	5	1	0	10
TOBACCO PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	2	7	0	0	1	0	0	11
LEATHER PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
TEXTILES	0	0	0	0	1	2	0	0	0	0	0	3
KNITTING MILLS	0	0	0	0	0	0	0	0	0	0	0	0
CLOTHING	0	0	0	0	0	0	0	0	0	0	0	0
WOOD PRODUCTS	0	0	0	0	4	8	0	0	30	8	0	51
FURNITURE AND FIXTURES	0	0	0	0	0	3	0	0	3	0	0	7
PAPER AND ALLIED PRODUCTS	0	0	0	0	6	10	1	0	2	3	0	22
PRINTING AND PUBLISHING	0	0	0	0	3	8	0	0	5	1	0	17
PRIMARY METALS	0	0	1	0	21	139	2	7	33	5	0	207
METAL FABRICATING	0	0	0	0	32	121	1	1	48	2	0	206
MACHINERY	0	0	0	0	30	136	0	0	38	0	0	205
TRANSPORTATION EQUIPMENT	0	0	0	0	1	14	0	0	2	0	0	18
ELECTRICAL PRODUCTS	0	0	0	0	10	51	0	0	10	0	0	72
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	3	17	0	0	21	0	0	41
PETROLEUM AND COAL PRODUCTS	0	0	0	0	1	2	0	0	3	0	0	5
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	3	13	0	0	4	1	0	21
MISCELLANEOUS MANUFACTURING	0	0	0	0	5	16	0	0	4	0	0	24
CONSTRUCTION	0	0	0	0	14	49	0	0	60	2	0	125
TRANSPORTATION AND STORAGE	0	0	1	1	28	69	10	1	64	8	0	183
COMMUNICATION	0	0	0	0	5	15	0	0	13	1	0	36
UTILITIES	1	0	0	0	5	15	0	1	84	1	0	106
WHOLESALE TRADE	0	0	1	1	42	151	2	1	72	5	0	275
RETAIL TRADE	0	0	0	0	10	24	0	0	35	1	0	71
FINANCE, INSURANCE, AND REAL ESTATE	0	0	0	0	17	44	3	2	151	8	0	225
EDUCATION AND HEALTH SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	0	1	0	0	2	0	0	3
SERVICES TO BUSINESS MANAGEMENT	0	0	0	0	16	43	1	1	26	5	0	94
ACCOMMODATION AND FOOD SERVICES	0	0	0	0	2	6	0	0	107	1	0	116
PERSONAL SERVICES	0	0	0	0	1	3	0	0	5	0	0	9
TOTAL	1	0	5	5	284	1059	26	20	1038	65	0	2503

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.3

PLANT CONSTRUCTION
DIRECT, INDIRECT AND INDUCED GROSS DOMESTIC PRODUCT AT FACTOR COST
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	1	1	1	15	46	10	27	110	8	0	220
FORESTRY	0	0	0	0	4	3	0	0	2	6	0	16
FISHING, HUNTING AND TRAPPING	0	0	1	0	0	0	0	0	1	2	0	4
METAL MINES	0	0	0	0	10	16	1	0	0	1	0	29
MINERAL FUELS	0	0	1	0	0	0	1	8	216	4	0	230
NON-METAL MINES AND QUARRIES	0	0	0	0	1	2	0	2	1	0	0	6
SERVICES INCIDENTAL TO MINING	0	0	0	0	8	71	0	0	118	5	0	203
FOOD AND BEVERAGES	1	0	2	3	29	62	6	3	51	17	0	174
TOBACCO PRODUCTS	0	0	0	0	7	6	0	0	0	0	0	13
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	6	19	0	0	3	0	0	30
LEATHER PRODUCTS	0	0	0	0	4	4	0	0	0	0	0	9
TEXTILES	0	0	0	0	15	13	0	0	1	1	0	31
KNITTING MILLS	0	0	1	0	8	4	0	0	0	0	0	13
CLOTHING	0	0	0	0	30	10	3	0	3	1	0	47
WOOD PRODUCTS	0	0	0	0	8	11	1	0	32	12	0	64
FURNITURE AND FIXTURES	0	0	0	0	7	12	1	0	6	1	0	28
PAPER AND ALLIED PRODUCTS	0	0	1	1	20	33	3	0	5	12	0	77
PRINTING AND PUBLISHING	0	0	0	0	13	30	2	0	17	4	0	67
PRIMARY METALS	0	0	1	0	25	151	2	7	33	6	0	225
METAL FABRICATING	0	0	0	0	37	138	2	2	51	4	0	234
MACHINERY	0	0	0	0	31	142	0	0	39	1	0	213
TRANSPORTATION EQUIPMENT	0	0	0	0	4	34	1	0	4	2	0	45
ELECTRICAL PRODUCTS	0	0	0	0	17	72	1	0	11	0	0	101
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	5	23	0	0	24	2	0	55
PETROLEUM AND COAL PRODUCTS	0	0	1	0	4	5	0	0	6	1	0	18
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	17	44	1	0	8	3	0	74
MISCELLANEOUS MANUFACTURING	0	0	0	0	10	32	0	0	5	1	0	48
CONSTRUCTION	0	0	1	1	22	70	2	1	90	7	0	194
TRANSPORTATION AND STORAGE	0	0	3	3	64	136	14	3	100	23	0	347
COMMUNICATION	0	0	1	1	25	52	2	2	59	9	0	151
UTILITIES	3	0	1	1	21	48	3	2	148	9	0	235
WHOLESALE TRADE	0	0	3	2	87	240	8	4	122	23	0	489
RETAIL TRADE	2	0	5	4	62	133	7	5	249	29	0	495
OWNER OCCUPIED DWELLINGS	1	0	3	2	15	66	3	2	119	16	0	226
FINANCE, INSURANCE, AND REAL ESTATE	0	0	4	3	101	241	15	10	264	47	0	685
EDUCATION AND HEALTH SERVICES	0	0	1	0	8	19	1	1	31	4	0	65
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	5	14	1	0	18	3	0	42
SERVICES TO BUSINESS MANAGEMENT	0	0	1	1	39	91	4	2	51	13	0	203
ACCOMMODATION AND FOOD SERVICES	1	0	2	1	24	49	3	2	222	15	0	319
PERSONAL SERVICES	0	0	1	0	9	18	1	1	35	4	0	68
HOUSEHOLDS	1	0	2	2	18	49	3	2	89	9	0	175
TOTAL	11	2	35	30	834	2213	106	88	2342	309	1	5970

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

PLANT CONSTRUCTION
DIRECT AND INDIRECT EMPLOYMENT
(THOUSANDS OF MAN-YEARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	0	0	0	0	0	0	0	0	0	0	0
FORESTRY	0	0	0	0	0	0	0	0	0	0	0	0
FISHING, HUNTING AND TRAPPING	0	0	0	0	0	0	0	0	0	0	0	0
METAL MINES	0	0	0	0	0	0	0	0	0	0	0	0
MINERAL FUELS	0	0	0	0	0	0	0	0	0	0	0	0
NON-METAL MINES AND QUARRIES	0	0	0	0	0	1	0	0	1	0	0	1
SERVICES INCIDENTAL TO MINING	0	0	0	0	0	0	0	0	0	0	0	0
FOOD AND BEVERAGES	0	0	0	0	0	0	0	0	0	0	0	0
TOBACCO PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
LEATHER PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
TEXTILES	0	0	0	0	0	0	0	0	0	0	0	0
KNITTING MILLS	0	0	0	0	0	0	0	0	0	0	0	0
CLOTHING	0	0	0	0	0	0	0	0	1	0	0	1
WOOD PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
FURNITURE AND FIXTURES	0	0	0	0	0	0	0	0	0	0	0	0
PAPER AND ALLIED PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
PRINTING AND PUBLISHING	0	0	0	0	0	2	0	0	0	0	0	3
PRIMARY METALS	0	0	0	0	1	3	0	0	1	0	0	5
METAL FABRICATING	0	0	0	0	1	3	0	0	1	0	0	5
MACHINERY	0	0	0	0	0	0	0	0	0	0	0	0
TRANSPORTATION EQUIPMENT	0	0	0	0	0	1	0	0	1	0	0	2
ELECTRICAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	1
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
PETROLEUM AND COAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	1
MISCELLANEOUS MANUFACTURING	0	0	0	0	0	1	0	0	1	0	0	2
CONSTRUCTION	0	0	0	0	1	2	0	0	2	0	0	5
TRANSPORTATION AND STORAGE	0	0	0	0	0	0	0	0	0	0	0	1
COMMUNICATION	0	0	0	0	0	0	0	0	1	0	0	1
UTILITIES	0	0	0	0	2	6	0	0	2	0	0	10
WHOLESALE TRADE	0	0	0	0	0	1	0	0	1	0	0	3
RETAIL TRADE	0	0	0	0	0	1	0	0	2	0	0	3
FINANCE, INSURANCE, AND REAL ESTATE	0	0	0	0	0	0	0	0	0	0	0	0
EDUCATION AND HEALTH SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	1	2	0	0	1	0	0	3
SERVICES TO BUSINESS MANAGEMENT	0	0	0	0	0	0	0	0	4	0	0	5
ACCOMMODATION AND FOOD SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
PERSONAL SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	7	35	1	0	20	1	0	56

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.5

PLANT CONSTRUCTION
DIRECT, INDIRECT AND INDUCED EMPLOYMENT
(THOUSANDS OF MAN-YEARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	0	0	0	0	0	0	0	0	0	0	1
FORESTRY	0	0	0	0	0	0	0	0	0	0	0	0
FISHING, HUNTING AND TRAPPING	0	0	0	0	0	0	0	0	0	0	0	0
METAL MINES	0	0	0	0	0	0	0	0	0	0	0	0
MINERAL FUELS	0	0	0	0	0	0	0	0	0	0	0	0
NON-METAL MINES AND QUARRIES	0	0	0	0	0	0	0	0	0	0	0	0
SERVICES INCIDENTAL TO MINING	0	0	0	0	0	1	0	0	1	0	0	1
FOOD AND BEVERAGES	0	0	0	0	1	1	0	0	1	0	0	4
TOBACCO PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	1
LEATHER PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
TEXTILES	0	0	0	0	1	0	0	0	0	0	0	1
KNITTING MILLS	0	0	0	0	0	0	0	0	0	0	0	0
CLOTHING	0	0	0	0	1	0	0	0	0	0	0	2
WOOD PRODUCTS	0	0	0	0	0	0	0	0	1	0	0	2
FURNITURE AND FIXTURES	0	0	0	0	0	0	0	0	0	0	0	1
PAPER AND ALLIED PRODUCTS	0	0	0	0	0	1	0	0	0	0	0	1
PRINTING AND PUBLISHING	0	0	0	0	0	1	0	0	0	0	0	2
PRIMARY METALS	0	0	0	0	1	3	0	0	0	0	0	4
METAL FABRICATING	0	0	0	0	1	3	0	0	1	0	0	5
MACHINERY	0	0	0	0	1	3	0	0	1	0	0	5
TRANSPORTATION EQUIPMENT	0	0	0	0	0	1	0	0	0	0	0	1
ELECTRICAL PRODUCTS	0	0	0	0	1	2	0	0	1	0	0	3
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	1
PETROLEUM AND COAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	0	1	0	0	0	0	0	1
MISCELLANEOUS MANUFACTURING	0	0	0	0	0	1	0	0	0	0	0	2
CONSTRUCTION	0	0	0	0	0	1	0	0	2	0	0	4
TRANSPORTATION AND STORAGE	0	0	0	0	2	3	0	0	3	1	0	9
COMMUNICATION	0	0	0	0	1	1	0	0	1	0	0	4
UTILITIES	0	0	0	0	0	1	0	0	1	0	0	2
WHOLESALE TRADE	0	0	0	0	3	9	0	0	4	1	0	17
RETAIL TRADE	0	0	0	0	2	5	0	0	9	1	0	18
FINANCE, INSURANCE, AND REAL ESTATE	0	0	0	0	2	4	0	0	3	1	0	10
EDUCATION AND HEALTH SERVICES	0	0	0	0	0	0	0	0	1	0	0	2
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	0	0	0	0	0	0	0	1
SERVICES TO BUSINESS MANAGEMENT	0	0	0	0	1	4	0	0	2	1	0	7
ACCOMMODATION AND FOOD SERVICES	0	0	0	0	1	2	0	0	9	1	0	14
PERSONAL SERVICES	0	0	0	0	0	1	0	0	1	0	0	3
TOTAL	0	0	1	1	22	52	3	1	45	7	0	131

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.8

PLANT CONSTRUCTION
DIRECT AND INDIRECT GROSS OUTPUT
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	0	0	0	1	3	1	3	20	1	0	29
FORESTRY	0	0	0	0	3	3	0	0	3	10	0	19
FISHING, HUNTING AND TRAPPING	0	0	0	0	0	0	0	0	0	1	0	1
METAL MINES	0	0	0	0	18	21	2	0	0	1	0	43
MINERAL FUELS	0	0	1	0	0	0	1	5	156	1	0	165
NON-METAL MINES AND QUARRIES	0	0	0	0	1	3	0	0	1	0	0	6
SERVICES INCIDENTAL TO MIN'NG	0	0	0	0	11	96	0	0	151	7	0	265
FOOD AND BEVERAGES	0	0	0	0	4	9	1	2	27	4	0	47
TOBACCO PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	5	17	0	0	3	0	0	26
LEATHER PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	1
TEXTILES	0	0	0	0	4	4	0	0	0	0	0	9
KNITTING MILLS	0	0	0	0	0	0	0	0	0	0	0	0
CLOTHING	0	0	0	0	0	0	0	0	0	0	0	1
WOOD PRODUCTS	0	0	0	0	11	18	1	1	95	20	0	147
FURNITURE AND FIXTURES	0	0	0	0	1	7	0	0	5	1	0	13
PAPER AND ALLIED PRODUCTS	0	0	1	0	14	26	1	0	5	6	0	54
PRINTING AND PUBLISHING	0	0	0	0	5	14	1	0	7	1	0	29
PRIMARY METALS	0	0	4	0	94	454	7	25	108	16	0	709
METAL FABRICATING	0	0	0	0	70	272	2	3	92	5	0	444
MACHINERY	0	0	0	0	40	224	0	0	63	1	0	327
TRANSPORTATION EQUIPMENT	0	0	0	0	4	36	1	0	4	0	0	46
ELECTRICAL PRODUCTS	0	0	0	0	24	101	1	0	30	0	0	157
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	7	37	0	0	45	0	0	90
PETROLEUM AND COAL PRODUCTS	1	0	1	1	15	25	1	1	66	2	0	113
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	8	31	0	0	7	2	0	48
MISCELLANEOUS MANUFACTURING	0	0	0	0	20	57	0	0	13	0	0	90
CONSTRUCTION	0	0	0	0	49	183	1	0	212	6	0	451
TRANSPORTATION AND STORAGE	0	0	2	2	51	127	14	2	118	15	0	331
COMMUNICATION	0	0	0	0	6	19	1	0	16	1	0	44
UTILITIES	1	0	0	0	6	18	1	1	85	1	0	113
WHOLESALE TRADE	0	0	1	1	59	212	3	1	101	7	0	385
RETAIL TRADE	0	0	0	0	16	35	0	0	50	1	0	103
FINANCE, INSURANCE, AND REAL ESTATE	0	0	1	1	30	69	4	3	260	12	0	380
EDUCATION AND HEALTH SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	1	2	0	0	3	0	0	6
SERVICES TO BUSINESS MANAGEMENT	0	0	1	1	22	56	2	1	36	7	0	125
ACCOMMODATION AND FOOD SERVICES	0	0	0	0	4	11	0	0	185	1	0	202
PERSONAL SERVICES	0	0	0	0	2	4	0	0	7	0	0	12
TRANSPORTATION MARGINS	0	0	0	0	15	66	0	0	39	1	0	122
OPERATING, OFFICE, LAB AND FOOD	0	0	1	0	25	80	2	1	59	6	0	174
TRAVEL AND ADVERTISING PROMOTION	0	0	0	0	13	44	1	0	35	2	0	95
TOTAL	2	0	14	10	657	2385	49	52	2109	142	1	5420

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.7

PLANT CONSTRUCTION
DIRECT, INDIRECT AND INDUCED GROSS OUTPUT
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	2	2	2	32	78	15	34	166	15	0	346
FORESTRY	0	0	0	1	8	7	1	0	4	17	0	37
FISHING, HUNTING AND TRAPPING	0	0	1	0	0	0	0	0	1	3	0	6
METAL MINES	0	0	0	0	20	26	2	1	0	1	1	52
MINERAL FUELS	0	0	2	1	0	0	2	19	389	8	0	421
NON-METAL MINES AND QUARRIES	0	0	0	0	1	4	0	2	2	0	0	10
SERVICES INCIDENTAL TO MINING	0	0	0	0	11	96	1	0	159	7	0	275
FOOD AND BEVERAGES	1	1	6	11	123	229	29	18	249	63	0	730
TOBACCO PRODUCTS	0	0	0	0	9	11	0	0	0	0	0	21
RUBBER AND PLASTIC PRODUCTS	0	0	1	0	16	45	0	0	9	1	0	73
LEATHER PRODUCTS	0	0	0	0	11	13	1	0	1	0	0	26
TEXTILES	0	0	1	0	47	37	1	0	2	3	0	92
KNITTING MILLS	0	0	1	0	18	7	1	0	0	0	0	27
CLOTHING	0	0	0	0	70	21	7	1	6	2	0	107
WOOD PRODUCTS	0	0	0	1	18	24	2	1	101	32	0	179
FURNITURE AND FIXTURES	0	0	0	0	16	27	3	0	13	2	0	63
PAPER AND ALLIED PRODUCTS	1	0	2	2	54	87	9	1	12	29	0	198
PRINTING AND PUBLISHING	0	0	0	0	24	51	3	1	27	6	0	113
PRIMARY METALS	0	0	5	1	110	494	8	26	110	19	0	773
METAL FABRICATING	0	0	0	1	83	313	4	3	99	10	0	512
MACHINERY	0	0	0	0	41	233	1	0	64	1	0	340
TRANSPORTATION EQUIPMENT	0	0	3	0	15	111	3	0	13	6	0	151
ELECTRICAL PRODUCTS	0	0	0	1	41	153	2	0	32	1	0	229
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	12	50	1	0	52	4	0	119
PETROLEUM AND COAL PRODUCTS	2	0	8	5	62	89	6	4	152	15	0	342
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	1	37	102	2	0	15	7	0	165
MISCELLANEOUS MANUFACTURING	0	0	0	1	39	116	1	0	18	2	0	177
CONSTRUCTION	1	0	2	1	68	229	4	3	277	17	0	601
TRANSPORTATION AND STORAGE	0	0	5	5	114	253	22	6	190	42	0	637
COMMUNICATION	1	0	2	1	29	64	3	2	74	12	0	187
UTILITIES	3	0	2	1	27	63	4	3	157	12	0	271
WHOLESALE TRADE	0	0	4	3	122	337	11	6	172	32	0	687
RETAIL TRADE	3	0	7	5	92	190	10	8	362	42	0	719
OWNER OCCUPIED DWELLINGS	2	0	5	3	30	131	6	4	221	31	0	433
FINANCE, INSURANCE, AND REAL ESTATE	0	0	7	6	187	382	24	16	453	76	0	1151
EDUCATION AND HEALTH SERVICES	0	0	1	1	10	25	1	1	38	6	0	82
AMUSEMENT AND RECREATION SERVICES	0	0	1	1	9	23	1	0	31	5	0	71
SERVICES TO BUSINESS MANAGEMENT	0	0	2	2	53	120	5	3	70	18	0	273
ACCOMMODATION AND FOOD SERVICES	1	0	3	2	43	88	6	4	385	26	0	557
PERSONAL SERVICES	0	0	1	1	13	28	1	1	53	5	0	104
TRANSPORTATION MARGINS	0	0	1	1	31	97	3	2	77	8	0	221
OPERATING, OFFICE, LAB AND FOOD	1	0	3	2	63	152	6	4	130	22	0	384
TRAVEL AND ADVERTISING PROMOTION	0	0	2	1	44	103	4	2	81	13	0	251
HOUSEHOLDS	34	1	66	54	783	1763	96	74	3431	419	0	6724
TOTAL	54	6	146	119	2635	6474	310	251	7898	1041	1	18935

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.8

PLANT OPERATION
DIRECT GROSS DOMESTIC PRODUCT AT FACTOR COST
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	NFLD	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	CANADA
FORESTRY	0	0	0	0	0	0	0	0	0	0
METAL MINES	0	0	0	0	1	0	0	0	0	1
MINERAL FUELS	0	0	0	0	0	0	0	130	0	130
NON-METAL MINES AND QUARRIES	0	0	0	0	1	0	0	0	0	1
SERVICES INCIDENTAL TO MINING	0	0	0	0	1	0	0	36	0	37
FOOD AND BEVERAGES	0	0	0	0	1	0	0	0	0	1
TOBACCO PRODUCTS	0	0	0	0	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	1	0	0	0	0	1
LEATHER PRODUCTS	0	0	0	0	0	0	0	0	0	0
TEXTILES	0	0	0	0	0	0	0	0	0	0
KNITTING MILLS	0	0	0	0	0	0	0	0	0	0
CLOTHING	0	0	0	0	0	0	0	0	0	0
WOOD PRODUCTS	0	0	0	0	1	0	0	0	0	1
FURNITURE AND FIXTURES	0	0	0	1	1	0	0	0	0	2
PAPER AND ALLIED PRODUCTS	0	0	0	1	3	0	0	1	0	5
PRINTING AND PUBLISHING	0	1	1	2	3	1	1	5	1	13
PRIMARY METALS	0	0	0	5	13	0	2	1	0	22
METAL FABRICATING	0	0	0	3	30	0	0	6	0	39
MACHINERY	0	0	0	17	135	0	0	41	0	193
TRANSPORTATION EQUIPMENT	0	0	0	1	9	0	0	2	0	12
ELECTRICAL PRODUCTS	0	0	0	1	3	0	0	0	0	5
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	1	0	0	1	0	2
PETROLEUM AND COAL PRODUCTS	0	0	0	0	0	0	0	0	0	1
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	191	0	0	0	0	192
MISCELLANEOUS MANUFACTURING	0	0	0	1	1	0	0	0	0	2
CONSTRUCTION	0	0	0	0	0	0	0	67	2	69
TRANSPORTATION AND STORAGE	0	1	1	15	18	4	3	203	7	254
COMMUNICATION	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	594	0	595
WHOLESALE TRADE	0	0	0	34	127	0	0	83	0	244
RETAIL TRADE	0	0	0	55	55	0	0	108	0	217
FINANCE, INSURANCE, AND REAL ESTATE	0	1	1	5	7	1	1	7871	3	7890
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	0	0	0	0	0	0
SERVICES TO BUSINESS MANAGEMENT	0	0	0	12	31	0	0	21	3	66
ACCOMMODATION AND FOOD SERVICES	0	0	0	2	4	1	0	14	2	23
PERSONAL SERVICES	0	0	0	6	7	0	0	20	0	32
TOTAL	0	2	2	161	645	7	8	9207	17	10050

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.9

PLANT OPERATION
DIRECT AND INDIRECT GROSS DOMESTIC PRODUCT AT FACTOR COST
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	0	0	0	1	5	1	3	10	0	0	20
FORESTRY	0	0	0	0	2	2	0	0	0	1	0	6
FISHING, HUNTING AND TRAPPING	0	0	0	0	0	0	0	0	0	0	0	0
METAL MINES	0	0	0	0	3	7	1	0	0	0	0	12
MINERAL FUELS	0	0	0	0	0	0	1	4	256	1	0	262
NON-METAL MINES AND QUARRIES	0	0	0	0	0	1	0	0	1	0	0	3
SERVICES INCIDENTAL TO MINING	0	0	0	0	1	1	0	0	165	3	0	170
FOOD AND BEVERAGES	0	0	0	0	2	5	0	0	2	1	0	10
TOBACCO PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	2	9	0	0	1	0	0	12
LEATHER PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
TEXTILES	0	0	0	0	1	1	0	0	0	0	0	3
KNITTING MILLS	0	0	0	0	0	0	0	0	0	0	0	0
CLOTHING	0	0	0	0	0	0	0	0	0	0	0	1
WOOD PRODUCTS	0	0	0	0	1	3	0	0	1	2	0	8
FURNITURE AND FIXTURES	0	0	0	0	1	1	0	0	0	0	0	2
PAPER AND ALLIED PRODUCTS	0	0	0	0	9	18	1	0	2	5	0	36
PRINTING AND PUBLISHING	0	0	1	1	7	19	2	1	20	3	0	53
PRIMARY METALS	0	0	0	0	14	67	1	5	8	4	0	100
METAL FABRICATING	0	0	0	0	8	54	1	1	12	1	0	77
MACHINERY	0	0	0	0	19	145	0	0	44	0	0	208
TRANSPORTATION EQUIPMENT	0	0	0	0	2	16	1	0	3	0	0	22
ELECTRICAL PRODUCTS	0	0	0	0	3	14	0	0	1	0	0	19
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	1	5	0	0	4	0	0	11
PETROLEUM AND COAL PRODUCTS	0	0	0	0	2	3	0	0	2	0	0	8
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	10	229	0	0	3	2	0	245
MISCELLANEOUS MANUFACTURING	0	0	0	0	2	4	0	0	1	0	0	8
CONSTRUCTION	0	0	0	0	3	9	0	0	116	3	0	132
TRANSPORTATION AND STORAGE	0	0	2	2	44	92	8	5	234	15	0	403
COMMUNICATION	0	0	0	0	9	23	1	1	43	2	0	79
UTILITIES	1	0	0	0	6	18	1	1	636	1	0	664
WHOLESALE TRADE	0	0	1	1	54	184	2	1	107	6	0	357
RETAIL TRADE	0	0	0	0	58	70	0	0	126	1	0	257
FINANCE, INSURANCE, AND REAL ESTATE	0	0	1	1	35	87	7	6	7967	19	0	8122
EDUCATION AND HEALTH SERVICES	0	0	0	0	0	0	0	0	1	0	0	1
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	1	1	0	0	2	0	0	4
SERVICES TO BUSINESS MANAGEMENT	0	0	0	0	32	83	3	2	65	12	0	198
ACCOMMODATION AND FOOD SERVICES	0	0	0	0	4	10	1	1	24	2	0	42
PERSONAL SERVICES	0	0	0	0	6	9	0	0	23	0	0	38
TOTAL	2	0	7	8	344	1199	33	32	9879	86	0	11589

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C 10

PLANT OPERATION
DIRECT, INDIRECT AND INDUCED GROSS DOMESTIC PRODUCT AT FACTOR COST
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	1	0	1	21	66	17	53	273	12	0	445
FORESTRY	0	0	0	0	6	5	1	0	2	8	0	22
FISHING, HUNTING AND TRAPPING	0	0	1	0	0	0	0	0	1	5	0	8
METAL MINES	0	0	0	0	6	14	1	1	0	1	0	23
MINERAL FUELS	0	0	0	0	0	0	2	12	541	6	0	562
NON-METAL MINES AND QUARRIES	0	0	0	0	1	2	0	4	2	0	0	9
SERVICES INCIDENTAL TO MINING	0	0	0	0	1	2	0	1	179	3	0	186
FOOD AND BEVERAGES	0	0	1	4	43	100	12	7	131	33	0	331
TOBACCO PRODUCTS	0	0	0	0	14	12	0	0	0	0	0	26
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	9	34	0	0	7	1	0	51
LEATHER PRODUCTS	0	0	0	0	7	8	1	0	1	0	0	17
TEXTILES	0	0	0	0	29	25	1	0	2	2	0	59
KNITTING MILLS	0	0	1	0	16	7	1	0	0	1	0	27
CLOTHING	0	0	0	0	58	19	6	1	7	2	0	95
WOOD PRODUCTS	0	0	0	0	7	8	1	1	7	12	0	36
FURNITURE AND FIXTURES	0	0	0	0	12	18	4	0	11	1	0	46
PAPER AND ALLIED PRODUCTS	0	0	2	1	35	62	8	1	10	29	0	148
PRINTING AND PUBLISHING	0	0	1	1	24	57	6	1	56	8	0	154
PRIMARY METALS	0	0	1	1	20	91	2	5	10	6	0	136
METAL FABRICATING	0	0	0	0	18	88	3	2	21	6	0	137
MACHINERY	0	0	0	0	22	155	1	0	46	1	0	226
TRANSPORTATION EQUIPMENT	0	0	0	0	7	58	2	0	10	5	0	82
ELECTRICAL PRODUCTS	0	0	0	0	18	58	1	0	2	1	0	80
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	5	17	0	0	13	5	0	41
PETROLEUM AND COAL PRODUCTS	0	0	0	0	6	8	1	0	12	1	0	29
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	38	290	2	0	13	8	0	352
MISCELLANEOUS MANUFACTURING	0	0	0	0	12	38	1	0	6	1	0	58
CONSTRUCTION	0	0	0	0	16	39	3	2	201	9	0	272
TRANSPORTATION AND STORAGE	0	0	3	4	105	219	18	10	336	44	0	735
COMMUNICATION	0	0	1	1	38	80	5	3	175	13	0	316
UTILITIES	3	0	0	0	27	64	5	3	822	10	0	935
WHOLESALE TRADE	0	0	3	2	129	344	15	8	249	42	0	792
RETAIL TRADE	0	0	2	1	117	204	10	7	750	26	0	1118
OWNER OCCUPIED DWELLINGS	0	0	1	0	16	78	4	3	347	12	0	462
FINANCE, INSURANCE, AND REAL ESTATE	0	0	4	4	175	443	34	23	8271	101	0	9054
EDUCATION AND HEALTH SERVICES	0	0	0	0	8	23	1	1	90	4	0	127
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	7	19	1	0	49	2	0	79
SERVICES TO BUSINESS MANAGEMENT	0	0	1	1	72	171	9	5	134	28	0	422
ACCOMMODATION AND FOOD SERVICES	0	0	1	0	29	64	5	3	361	14	0	477
PERSONAL SERVICES	0	0	0	0	15	28	1	1	110	3	0	159
HOUSEHOLDS	0	0	1	0	20	59	4	2	261	7	0	354
TOTAL	5	2	26	27	1207	3075	187	164	13519	472	1	18685

NOTE TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.11

PLANT OPERATION
DIRECT AND INDIRECT EMPLOYMENT
(THOUSANDS OF MAN-YEARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	0	0	0	0	0	0	0	0	0	0	0
FORESTRY	0	0	0	0	0	0	0	0	0	0	0	0
FISHING, HUNTING AND TRAPPING	0	0	0	0	0	0	0	0	0	0	0	0
METAL MINES	0	0	0	0	0	0	0	0	0	0	0	0
MINERAL FUELS	0	0	0	0	0	0	0	0	0	0	0	0
NON-METAL MINES AND QUARRIES	0	0	0	0	0	0	0	0	0	0	0	0
SERVICES INCIDENTAL TO MINING	0	0	0	0	0	0	0	0	0	0	0	0
FOOD AND BEVERAGES	0	0	0	0	0	0	0	0	1	0	0	1
TOBACCO PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
LEATHER PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
TEXTILES	0	0	0	0	0	0	0	0	0	0	0	0
KNITTING MILLS	0	0	0	0	0	0	0	0	0	0	0	0
CLOTHING	0	0	0	0	0	0	0	0	0	0	0	0
WOOD PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
FURNITURE AND FIXTURES	0	0	0	0	0	0	0	0	0	0	0	0
PAPER AND ALLIED PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
PRINTING AND PUBLISHING	0	0	0	0	0	0	0	0	0	0	0	0
PRIMARY METALS	0	0	0	0	0	1	0	0	0	0	0	1
METAL FABRICATING	0	0	0	0	0	1	0	0	0	0	0	1
MACHINERY	0	0	0	0	0	1	0	0	0	0	0	2
TRANSPORTATION EQUIPMENT	0	0	0	0	0	3	0	0	1	0	0	5
ELECTRICAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
PETROLEUM AND COAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS MANUFACTURING	0	0	0	0	0	3	0	0	0	0	0	4
CONSTRUCTION	0	0	0	0	0	0	0	0	0	0	0	0
TRANSPORTATION AND STORAGE	0	0	0	0	0	0	0	0	2	0	0	3
COMMUNICATION	0	0	0	0	1	2	0	0	5	0	0	10
UTILITIES	0	0	0	0	0	1	0	0	1	0	0	2
WHOLESALE TRADE	0	0	0	0	0	0	0	0	5	0	0	5
RETAIL TRADE	0	0	0	0	2	7	0	0	3	0	0	12
FINANCE, INSURANCE, AND REAL ESTATE	0	0	0	0	2	3	0	0	4	0	0	9
EDUCATION AND HEALTH SERVICES	0	0	0	0	1	1	0	0	13	0	0	15
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
SERVICES TO BUSINESS MANAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0
ACCOMMODATION AND FOOD SERVICES	0	0	0	0	1	3	0	0	2	0	0	7
PERSONAL SERVICES	0	0	0	0	0	0	0	0	1	0	0	2
TOTAL	0	0	0	0	10	30	1	1	42	2	0	86

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.12

PLANT OPERATION
DIRECT, INDIRECT AND INDUCED EMPLOYMENT
(THOUSANDS OF MAN-YEARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	0	0	0	0	1	0	0	1	0	0	1
FORESTRY	0	0	0	0	0	0	0	0	0	0	0	1
FISHING, HUNTING AND TRAPPING	0	0	0	0	0	0	0	0	0	0	0	0
METAL MINES	0	0	0	0	0	0	0	0	0	0	0	0
MINERAL FUELS	0	0	0	0	0	0	0	0	1	0	0	1
NON-METAL MINES AND QUARRIES	0	0	0	0	0	0	0	0	0	0	0	0
SERVICES INCIDENTAL TO MINING	0	0	0	0	0	0	0	0	1	0	0	1
FOOD AND BEVERAGES	0	0	0	0	1	2	0	0	3	1	0	7
TOBACCO PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	0	1	0	0	0	0	0	1
LEATHER PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	1
TEXTILES	0	0	0	0	1	1	0	0	0	0	0	2
KNITTING MILLS	0	0	0	0	1	0	0	0	0	0	0	1
CLOTHING	0	0	0	0	2	1	0	0	0	0	0	4
WOOD PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	1
FURNITURE AND FIXTURES	0	0	0	0	0	1	0	0	0	0	0	2
PAPER AND ALLIED PRODUCTS	0	0	0	0	1	1	0	0	0	0	0	2
PRINTING AND PUBLISHING	0	0	0	0	1	2	0	0	1	0	0	4
PRIMARY METALS	0	0	0	0	0	2	0	0	0	0	0	2
METAL FABRICATING	0	0	0	0	0	2	0	0	0	0	0	3
MACHINERY	0	0	0	0	1	4	0	0	1	0	0	5
TRANSPORTATION EQUIPMENT	0	0	0	0	0	1	0	0	0	0	0	2
ELECTRICAL PRODUCTS	0	0	0	0	0	1	0	0	0	0	0	2
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	1
PETROLEUM AND COAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	1	4	0	0	0	0	0	5
MISCELLANEOUS MANUFACTURING	0	0	0	0	0	1	0	0	0	0	0	2
CONSTRUCTION	0	0	0	0	0	1	0	0	4	0	0	5
TRANSPORTATION AND STORAGE	0	0	0	0	3	5	0	0	9	1	0	19
COMMUNICATION	0	0	0	0	1	2	0	0	5	0	0	8
UTILITIES	0	0	0	0	0	1	0	0	7	0	0	8
WHOLESALE TRADE	0	0	0	0	5	13	1	0	8	1	0	28
RETAIL TRADE	0	0	0	0	4	8	0	0	26	1	0	40
FINANCE, INSURANCE, AND REAL ESTATE	0	0	0	0	3	7	1	0	17	1	0	29
EDUCATION AND HEALTH SERVICES	0	0	0	0	0	1	0	0	2	0	0	3
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	0	1	0	0	1	0	0	2
SERVICES TO BUSINESS MANAGEMENT	0	0	0	0	3	7	0	0	4	1	0	15
ACCOMMODATION AND FOOD SERVICES	0	0	0	0	1	3	0	0	15	1	0	20
PERSONAL SERVICES	0	0	0	0	1	1	0	0	4	0	0	6
TOTAL	0	0	1	1	32	74	5	2	113	10	0	238

NOTE TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.13

PLANT OPERATION
DIRECT AND INDIRECT GROSS OUTPUT
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	0	0	0	3	8	1	3	14	1	0	31
FORESTRY	0	0	0	0	3	4	0	0	1	4	0	13
FISHING, HUNTING AND TRAPPING	0	0	0	0	0	0	0	0	0	0	0	0
METAL MINES	0	0	0	0	6	11	1	0	0	1	0	20
MINERAL FUELS	0	0	1	0	0	0	1	10	456	2	0	471
NON-METAL MINES AND QUARRIES	0	0	0	0	0	2	0	1	1	0	0	4
SERVICES INCIDENTAL TO MINING	0	0	0	0	1	2	0	0	223	4	0	230
FOOD AND BEVERAGES	0	0	0	0	6	19	2	1	11	3	0	42
TOBACCO PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	5	22	0	0	2	0	0	30
LEATHER PRODUCTS	0	0	0	0	0	1	0	0	0	0	0	1
TEXTILES	0	0	0	0	4	4	0	0	0	0	0	8
KNITTING MILLS	0	0	0	0	0	0	0	0	0	0	0	0
CLOTHING	0	0	0	0	1	0	0	0	0	0	0	1
WOOD PRODUCTS	0	0	0	0	3	6	0	0	4	6	0	20
FURNITURE AND FIXTURES	0	0	0	0	2	2	0	0	1	0	0	5
PAPER AND ALLIED PRODUCTS	0	0	1	1	23	46	3	0	5	11	0	90
PRINTING AND PUBLISHING	0	0	1	1	14	33	3	1	32	4	0	88
PRIMARY METALS	0	0	2	1	60	218	4	18	25	12	0	341
METAL FABRICATING	0	0	0	0	17	124	2	2	22	3	0	171
MACHINERY	0	0	0	0	26	237	0	0	72	1	0	336
TRANSPORTATION EQUIPMENT	0	0	0	0	5	42	1	0	8	0	0	58
ELECTRICAL PRODUCTS	0	0	0	0	8	30	1	0	3	1	0	42
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	2	12	0	0	9	0	0	24
PETROLEUM AND COAL PRODUCTS	1	0	1	1	24	53	2	2	55	3	0	143
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	1	23	547	1	0	6	3	0	582
MISCELLANEOUS MANUFACTURING	0	0	0	0	6	14	0	0	3	0	0	24
CONSTRUCTION	0	0	0	0	7	19	1	1	372	8	0	409
TRANSPORTATION AND STORAGE	1	0	4	4	78	172	14	10	404	28	0	714
COMMUNICATION	0	0	0	0	10	29	1	1	54	3	0	98
UTILITIES	1	0	0	0	8	23	1	1	645	1	0	681
WHOLESALE TRADE	0	0	1	1	76	299	3	2	150	8	0	500
RETAIL TRADE	0	0	0	0	87	100	1	1	183	2	0	374
FINANCE, INSURANCE, AND REAL ESTATE	0	0	2	2	64	137	11	9	8629	31	0	8887
EDUCATION AND HEALTH SERVICES	0	0	0	0	0	0	0	0	1	0	0	1
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	1	3	0	0	3	0	0	7
SERVICES TO BUSINESS MANAGEMENT	0	0	1	1	43	108	4	2	90	16	0	264
ACCOMMODATION AND FOOD SERVICES	0	0	0	0	7	19	1	1	42	3	0	73
PERSONAL SERVICES	0	0	0	0	9	12	0	0	31	0	0	52
TRANSPORTATION MARGINS	0	0	0	0	9	81	0	1	24	1	0	117
OPERATING, OFFICE, LAB AND FOOD	0	0	1	1	28	91	2	2	146	7	0	277
TRAVEL AND ADVERTISING PROMOTION	0	0	0	0	17	60	1	1	92	3	0	176
TOTAL	3	0	17	17	687	2552	64	73	11821	172	0	15405

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.14

PLANT OPERATION
DIRECT, INDIRECT AND INDUCED GROSS OUTPUT
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	PEI	NFLD	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	2	1	2	47	110	26	66	413	23	0	689
FORESTRY	0	0	0	1	12	11	1	1	4	20	0	49
FISHING, HUNTING AND TRAPPING	0	0	1	0	1	0	0	0	2	7	0	11
METAL MINES	0	0	0	0	10	22	2	1	0	1	1	37
MINERAL FUELS	0	0	1	0	0	0	3	31	972	11	0	1018
NON-METAL MINES AND QUARRIES	0	0	0	0	1	4	0	5	3	0	0	14
SERVICES INCIDENTAL TO MINING	0	0	0	0	1	3	1	1	242	4	0	252
FOOD AND BEVERAGES	0	1	5	13	186	368	95	36	620	121	0	1404
TOBACCO PRODUCTS	0	0	0	0	18	22	0	0	0	0	0	40
RUBBER AND PLASTIC PRODUCTS	0	0	1	0	25	79	1	1	19	2	0	127
LEATHER PRODUCTS	0	0	0	0	19	23	2	0	2	1	0	48
TEXTILES	0	0	1	0	90	69	2	0	6	6	0	175
KNITTING MILLS	0	0	2	0	36	13	2	0	1	1	0	55
CLOTHING	0	0	0	0	137	39	15	3	15	5	0	214
WOOD PRODUCTS	0	0	0	1	15	17	3	1	18	32	0	88
FURNITURE AND FIXTURES	0	0	0	0	28	41	9	1	24	3	0	105
PAPER AND ALLIED PRODUCTS	1	0	4	3	92	162	21	2	27	68	0	380
PRINTING AND PUBLISHING	0	0	1	1	44	96	9	2	89	13	0	256
PRIMARY METALS	0	0	4	2	91	299	7	20	33	18	0	473
METAL FABRICATING	0	0	0	1	40	206	6	3	42	16	0	314
MACHINERY	0	0	0	0	29	255	1	0	76	2	0	363
TRANSPORTATION EQUIPMENT	0	0	4	0	27	201	6	1	32	13	0	283
ELECTRICAL PRODUCTS	0	0	0	1	43	139	3	1	7	2	0	195
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	11	37	1	1	27	9	0	85
PETROLEUM AND COAL PRODUCTS	3	0	5	5	86	144	10	9	297	19	0	577
CHEMICALS AND CHEMICAL PRODUCTS	0	0	1	1	79	687	4	1	29	15	0	818
MISCELLANEOUS MANUFACTURING	0	0	0	1	44	140	2	0	17	4	0	208
CONSTRUCTION	0	0	1	1	35	85	6	5	558	23	0	715
TRANSPORTATION AND STORAGE	1	0	6	6	185	399	32	20	607	81	0	1338
COMMUNICATION	0	0	1	1	43	99	6	4	221	18	0	393
UTILITIES	3	0	1	1	35	84	6	5	855	13	0	1002
WHOLESALE TRADE	0	0	4	3	181	483	21	12	349	59	0	1112
RETAIL TRADE	0	0	2	2	174	292	14	12	1091	37	0	1625
OWNER OCCUPIED DWELLINGS	0	0	1	1	32	155	8	5	647	23	0	873
FINANCE, INSURANCE, AND REAL ESTATE	0	0	8	8	326	702	55	38	9158	166	0	10460
EDUCATION AND HEALTH SERVICES	0	0	0	0	11	29	2	1	112	5	0	160
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	12	32	1	1	84	4	0	135
SERVICES TO BUSINESS MANAGEMENT	0	0	2	2	98	225	11	6	186	38	0	568
ACCOMMODATION AND FOOD SERVICES	0	0	1	1	52	114	10	6	625	24	0	833
PERSONAL SERVICES	0	0	0	0	22	42	2	2	167	5	0	240
TRANSPORTATION MARGINS	0	0	1	1	32	129	5	3	134	11	0	316
OPERATING, OFFICE, LAB AND FOOD	0	0	2	2	88	211	12	9	346	34	0	705
TRAVEL AND ADVERTISING PROMOTION	0	0	1	1	68	161	9	5	226	22	0	493
HOUSEHOLDS	2	1	19	16	848	2090	129	101	10044	314	0	13566
TOTAL	13	6	82	81	3453	8521	518	420	28425	1290	1	42809

NOTE TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C 15

URBAN AND RESIDENTIAL DEVELOPMENT
DIRECT GROSS DOMESTIC PRODUCT AT FACTOR COST
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	QUE	ONT	MAN	ALTA	BC	CANADA
FORESTRY	0	0	0	0	0	0
METAL MINES	0	0	0	0	0	0
MINERAL FUELS	0	0	0	0	1	1
NON-METAL MINES AND QUARRIES	0	0	0	0	0	0
SERVICES INCIDENTAL TO MINING	0	0	0	0	0	0
FOOD AND BEVERAGES	0	0	0	0	0	0
TOBACCO PRODUCTS	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	1	0	0	1	3
LEATHER PRODUCTS	0	0	0	0	0	0
TEXTILES	1	1	0	0	0	2
KNITTING MILLS	0	0	0	0	0	0
CLOTHING	0	0	0	0	0	0
WOOD PRODUCTS	0	0	0	7	4	11
FURNITURE AND FIXTURES	4	4	0	0	0	9
PAPER AND ALLIED PRODUCTS	0	2	0	0	0	2
PRINTING AND PUBLISHING	0	0	0	0	0	0
PRIMARY METALS	1	3	0	1	0	5
METAL FABRICATING	7	15	0	1	2	27
MACHINERY	0	2	0	0	0	3
TRANSPORTATION EQUIPMENT	0	1	0	0	0	1
ELECTRICAL PRODUCTS	5	9	0	0	0	14
NON-METALLIC MINERAL PRODUCTS	1	1	0	14	1	17
PETROLEUM AND COAL PRODUCTS	0	0	0	0	0	1
CHEMICALS AND CHEMICAL PRODUCTS	1	1	0	0	0	2
MISCELLANEOUS MANUFACTURING	3	1	0	0	0	3
CONSTRUCTION	0	1	0	1	0	2
TRANSPORTATION AND STORAGE	0	0	0	1	0	1
UTILITIES	0	0	0	0	0	0
WHOLESALE TRADE	6	13	0	8	4	31
RETAIL TRADE	4	5	0	0	0	10
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	0	0
SERVICES TO BUSINESS MANAGEMENT	0	0	0	0	0	0
PERSONAL SERVICES	0	0	0	0	0	0
TOTAL	34	60	0	37	13	145

NOTE TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.18

URBAN AND RESIDENTIAL DEVELOPMENT
DIRECT AND INDIRECT GROSS DOMESTIC PRODUCT AT FACTOR COST
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	0	0	0	0	0	0	0	0	0	0	1
FORESTRY	0	0	0	0	0	0	0	0	3	3	0	6
FISHING, HUNTING AND TRAPPING	0	0	0	0	0	0	0	0	0	0	0	0
METAL MINES	0	0	0	0	1	2	0	0	0	0	0	3
MINERAL FUELS	0	0	0	0	0	0	0	0	11	2	0	13
NON-METAL MINES AND QUARRIES	0	0	0	0	0	0	0	0	0	0	0	1
SERVICES INCIDENTAL TO MINING	0	0	0	0	0	0	0	0	1	0	0	1
FOOD AND BEVERAGES	0	0	0	0	0	0	0	0	0	0	0	0
TOBACCO PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	1	2	0	0	0	1	0	4
LEATHER PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
TEXTILES	0	0	0	0	2	2	0	0	0	0	0	4
KNITTING MILLS	0	0	0	0	0	0	0	0	0	0	0	0
CLOTHING	0	0	0	0	0	0	0	0	0	0	0	0
WOOD PRODUCTS	0	0	0	0	1	1	0	0	8	5	0	14
FURNITURE AND FIXTURES	0	0	0	0	4	4	0	0	0	0	0	9
PAPER AND ALLIED PRODUCTS	0	0	0	0	1	3	0	0	0	1	0	6
PRINTING AND PUBLISHING	0	0	0	0	1	1	0	0	0	0	0	2
PRIMARY METALS	0	0	0	0	4	11	0	0	1	1	0	17
METAL FABRICATING	0	0	0	0	8	18	0	0	3	2	0	32
MACHINERY	0	0	0	0	0	3	0	0	0	0	0	4
TRANSPORTATION EQUIPMENT	0	0	0	0	0	1	0	0	0	0	0	2
ELECTRICAL PRODUCTS	0	0	0	0	5	10	0	0	0	0	0	16
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	1	2	0	0	17	1	0	22
PETROLEUM AND COAL PRODUCTS	0	0	0	0	0	0	0	0	1	0	0	1
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	2	3	0	0	1	1	0	7
MISCELLANEOUS MANUFACTURING	0	0	0	0	3	1	0	0	0	0	0	4
CONSTRUCTION	0	0	0	0	1	1	0	0	2	0	0	4
TRANSPORTATION AND STORAGE	0	0	0	0	5	9	0	0	4	2	0	21
COMMUNICATION	0	0	0	0	1	2	0	0	1	0	0	4
UTILITIES	0	0	0	0	1	2	0	0	2	0	0	5
WHOLESALE TRADE	0	0	0	0	10	18	0	0	10	5	0	44
RETAIL TRADE	0	0	0	0	4	6	0	0	2	1	0	13
FINANCE, INSURANCE, AND REAL ESTATE	0	0	0	0	2	4	0	0	5	2	0	14
EDUCATION AND HEALTH SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
SERVICES TO BUSINESS MANAGEMENT	0	0	0	0	2	3	0	0	1	1	0	7
ACCOMMODATION AND FOOD SERVICES	0	0	0	0	0	1	0	0	0	0	0	1
PERSONAL SERVICES	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL	0	0	1	1	62	116	2	1	74	28	0	285

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.17

URBAN AND RESIDENTIAL DEVELOPMENT
DIRECT, INDIRECT AND INDUCED GROSS DOMESTIC PRODUCT AT FACTOR COST
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	0	0	0	3	7	2	5	13	2	0	32
FORESTRY	0	0	0	0	1	0	0	0	3	3	0	7
FISHING, HUNTING AND TRAPPING	0	0	0	0	0	0	0	0	0	0	0	1
METAL MINES	0	0	0	0	1	2	0	0	0	0	0	4
MINERAL FUELS	0	0	0	0	0	0	0	1	31	2	0	35
NON-METAL MINES AND QUARRIES	0	0	0	0	0	0	0	0	0	0	0	1
SERVICES INCIDENTAL TO MINING	0	0	0	0	0	0	0	0	2	0	0	2
FOOD AND BEVERAGES	0	0	0	0	5	9	2	1	6	3	0	26
TOBACCO PRODUCTS	0	0	0	0	1	1	0	0	0	0	0	2
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	1	4	0	0	0	1	0	7
LEATHER PRODUCTS	0	0	0	0	1	1	0	0	0	0	0	1
TEXTILES	0	0	0	0	4	3	0	0	0	0	0	8
KNITTING MILLS	0	0	0	0	1	1	0	0	0	0	0	2
CLOTHING	0	0	0	0	5	2	1	0	0	0	0	7
WOOD PRODUCTS	0	0	0	0	1	1	0	0	8	5	0	16
FURNITURE AND FIXTURES	0	0	0	0	5	5	0	0	1	0	0	12
PAPER AND ALLIED PRODUCTS	0	0	0	0	4	7	1	0	1	2	0	15
PRINTING AND PUBLISHING	0	0	0	0	2	4	0	0	2	1	0	10
PRIMARY METALS	0	0	0	0	4	13	0	0	1	1	0	20
METAL FABRICATING	0	0	0	0	9	21	0	0	4	3	0	36
MACHINERY	0	0	0	0	0	4	0	0	0	0	0	5
TRANSPORTATION EQUIPMENT	0	0	0	0	1	4	0	0	0	0	0	6
ELECTRICAL PRODUCTS	0	0	0	0	7	13	0	0	0	0	0	21
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	2	3	0	0	18	1	0	24
PETROLEUM AND COAL PRODUCTS	0	0	0	0	1	1	0	0	1	0	0	3
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	4	8	0	0	1	1	0	15
MISCELLANEOUS MANUFACTURING	0	0	0	0	4	4	0	0	0	0	0	8
CONSTRUCTION	0	0	0	0	2	4	1	0	5	1	0	14
TRANSPORTATION AND STORAGE	0	0	0	0	11	19	2	1	9	5	0	47
COMMUNICATION	0	0	0	0	4	7	1	1	6	2	0	22
UTILITIES	0	0	0	0	4	7	1	1	10	2	0	25
WHOLESALE TRADE	0	0	0	0	17	32	2	1	17	8	0	77
RETAIL TRADE	0	0	0	0	14	22	4	3	28	7	0	79
OWNER OCCUPIED DWELLINGS	0	0	0	0	3	9	2	2	15	4	0	34
FINANCE, INSURANCE, AND REAL ESTATE	0	0	0	0	16	34	3	2	20	9	0	84
EDUCATION AND HEALTH SERVICES	0	0	0	0	1	3	1	0	4	1	0	10
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	1	2	0	0	2	1	0	6
SERVICES TO BUSINESS MANAGEMENT	0	0	0	0	5	11	1	0	4	2	0	24
ACCOMMODATION AND FOOD SERVICES	0	0	0	0	4	7	2	1	14	4	0	33
PERSONAL SERVICES	0	0	0	0	2	2	1	1	4	1	0	10
HOUSEHOLDS	0	0	0	0	3	7	2	1	11	2	0	27
TOTAL	1	0	3	3	155	286	29	23	242	76	0	817

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.18

URBAN AND RESIDENTIAL DEVELOPMENT
DIRECT AND INDIRECT EMPLOYMENT
(THOUSANDS OF MAN-YEARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	0	0	0	0	0	0	0	0	0	0	0
FORESTRY	0	0	0	0	0	0	0	0	0	0	0	0
FISHING, HUNTING AND TRAPPING	0	0	0	0	0	0	0	0	0	0	0	0
METAL MINES	0	0	0	0	0	0	0	0	0	0	0	0
MINERAL FUELS	0	0	0	0	0	0	0	0	0	0	0	0
NON-METAL MINES AND QUARRIES	0	0	0	0	0	0	0	0	0	0	0	0
SERVICES INCIDENTAL TO MINING	0	0	0	0	0	0	0	0	0	0	0	0
FOOD AND BEVERAGES	0	0	0	0	0	0	0	0	0	0	0	0
TOBACCO PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
LEATHER PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
TEXTILES	0	0	0	0	0	0	0	0	0	0	0	0
KNITTING MILLS	0	0	0	0	0	0	0	0	0	0	0	0
CLOTHING	0	0	0	0	0	0	0	0	0	0	0	0
WOOD PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
FURNITURE AND FIXTURES	0	0	0	0	0	0	0	0	0	0	0	0
PAPER AND ALLIED PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
PRINTING AND PUBLISHING	0	0	0	0	0	0	0	0	0	0	0	0
PRIMARY METALS	0	0	0	0	0	0	0	0	0	0	0	0
METAL FABRICATING	0	0	0	0	0	0	0	0	0	0	0	1
MACHINERY	0	0	0	0	0	0	0	0	0	0	0	0
TRANSPORTATION EQUIPMENT	0	0	0	0	0	0	0	0	0	0	0	0
ELECTRICAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
PETROLEUM AND COAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS MANUFACTURING	0	0	0	0	0	0	0	0	0	0	0	0
CONSTRUCTION	0	0	0	0	0	0	0	0	0	0	0	0
TRANSPORTATION AND STORAGE	0	0	0	0	0	0	0	0	0	0	0	1
COMMUNICATION	0	0	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0	0	0
WHOLESALE TRADE	0	0	0	0	0	1	0	0	0	0	0	2
RETAIL TRADE	0	0	0	0	0	0	0	0	0	0	0	0
FINANCE, INSURANCE, AND REAL ESTATE	0	0	0	0	0	0	0	0	0	0	0	0
EDUCATION AND HEALTH SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
SERVICES TO BUSINESS MANAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0
ACCOMMODATION AND FOOD SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
PERSONAL SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	2	3	0	0	1	1	0	7

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.19

URBAN AND RESIDENTIAL DEVELOPMENT
DIRECT, INDIRECT AND INDUCED EMPLOYMENT
(THOUSANDS OF MAN-YEARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	0	0	0	0	0	0	0	0	0	0	0
FORESTRY	0	0	0	0	0	0	0	0	0	0	0	0
FISHING, HUNTING AND TRAPPING	0	0	0	0	0	0	0	0	0	0	0	0
METAL MINES	0	0	0	0	0	0	0	0	0	0	0	0
MINERAL FUELS	0	0	0	0	0	0	0	0	0	0	0	0
NON-METAL MINES AND QUARRIES	0	0	0	0	0	0	0	0	0	0	0	0
SERVICES INCIDENTAL TO MINING	0	0	0	0	0	0	0	0	0	0	0	0
FOOD AND BEVERAGES	0	0	0	0	0	0	0	0	0	0	0	0
TOBACCO PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	1
LEATHER PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
TEXTILES	0	0	0	0	0	0	0	0	0	0	0	0
KNITTING MILLS	0	0	0	0	0	0	0	0	0	0	0	0
CLOTHING	0	0	0	0	0	0	0	0	0	0	0	0
WOOD PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
FURNITURE AND FIXTURES	0	0	0	0	0	0	0	0	0	0	0	0
PAPER AND ALLIED PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
PRINTING AND PUBLISHING	0	0	0	0	0	0	0	0	0	0	0	0
PRIMARY METALS	0	0	0	0	0	0	0	0	0	0	0	0
METAL FABRICATING	0	0	0	0	0	0	0	0	0	0	0	0
MACHINERY	0	0	0	0	0	1	0	0	0	0	0	1
TRANSPORTATION EQUIPMENT	0	0	0	0	0	0	0	0	0	0	0	0
ELECTRICAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
PETROLEUM AND COAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS MANUFACTURING	0	0	0	0	0	0	0	0	0	0	0	0
CONSTRUCTION	0	0	0	0	0	0	0	0	0	0	0	0
TRANSPORTATION AND STORAGE	0	0	0	0	0	0	0	0	0	0	0	0
COMMUNICATION	0	0	0	0	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0	0	0	0	1
WHOLESALE TRADE	0	0	0	0	0	0	0	0	0	0	0	1
RETAIL TRADE	0	0	0	0	1	1	0	0	0	0	0	0
FINANCE, INSURANCE, AND REAL ESTATE	0	0	0	0	0	1	0	0	1	0	0	3
EDUCATION AND HEALTH SERVICES	0	0	0	0	0	1	0	0	1	0	0	3
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	0	0	0	0	0	0	0	1
SERVICES TO BUSINESS MANAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0
ACCOMMODATION AND FOOD SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
PERSONAL SERVICES	0	0	0	0	0	0	0	0	1	0	0	1
TOTAL	0	0	0	0	4	7	1	0	4	2	0	19

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C 20

URBAN AND RESIDENTIAL DEVELOPMENT
DIRECT AND INDIRECT GROSS OUTPUT
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	0	0	0	0	1	0	0	0	0	0	2
FORESTRY	0	0	0	0	1	0	0	0	7	7	0	15
FISHING, HUNTING AND TRAPPING	0	0	0	0	0	0	0	0	0	0	0	0
METAL MINES	0	0	0	0	1	2	0	0	0	0	0	4
MINERAL FUELS	0	0	0	0	0	0	0	1	20	3	0	24
NON-METAL MINES AND QUARRIES	0	0	0	0	0	0	0	0	0	0	0	1
SERVICES INCIDENTAL TO MINING	0	0	0	0	0	0	0	0	1	0	0	2
FOOD AND BEVERAGES	0	0	0	0	0	1	0	0	0	0	0	2
TOBACCO PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	2	5	0	0	0	3	0	11
LEATHER PRODUCTS	0	0	0	0	0	0	0	0	0	0	0	0
TEXTILES	0	0	0	0	7	5	0	0	0	0	0	12
KNITTING MILLS	0	0	0	0	0	0	0	0	0	0	0	0
CLOTHING	0	0	0	0	0	0	0	0	0	0	0	0
WOOD PRODUCTS	0	0	0	0	2	1	0	0	22	12	0	37
FURNITURE AND FIXTURES	0	0	0	0	10	9	0	0	1	0	0	20
PAPER AND ALLIED PRODUCTS	0	0	0	0	4	9	0	0	1	2	0	16
PRINTING AND PUBLISHING	0	0	0	0	1	2	0	0	0	0	0	4
PRIMARY METALS	0	0	0	0	18	36	1	1	4	2	0	62
METAL FABRICATING	0	0	0	0	18	45	0	0	8	5	0	78
MACHINERY	0	0	0	0	0	5	0	0	0	0	0	6
TRANSPORTATION EQUIPMENT	0	0	0	0	1	3	0	0	0	0	0	4
ELECTRICAL PRODUCTS	0	0	0	0	12	24	0	0	1	0	0	37
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	3	5	1	0	39	2	0	50
PETROLEUM AND COAL PRODUCTS	0	0	0	0	3	3	0	0	10	4	0	21
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	4	8	0	0	2	2	0	16
MISCELLANEOUS MANUFACTURING	0	0	0	0	10	4	0	0	0	0	0	14
CONSTRUCTION	0	0	0	0	1	4	0	0	4	1	0	10
TRANSPORTATION AND STORAGE	0	0	0	0	9	17	1	0	8	4	0	40
COMMUNICATION	0	0	0	0	1	2	0	0	1	0	0	5
UTILITIES	0	0	0	0	1	2	0	0	2	1	0	6
WHOLESALE TRADE	0	0	0	0	14	27	0	0	14	7	0	62
RETAIL TRADE	0	0	0	0	7	9	0	0	2	1	0	19
FINANCE, INSURANCE, AND REAL ESTATE	0	0	0	0	4	7	0	0	5	2	0	19
EDUCATION AND HEALTH SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	0	0	0	0	0	0	0	0
SERVICES TO BUSINESS MANAGEMENT	0	0	0	0	2	4	0	0	2	1	0	10
ACCOMMODATION AND FOOD SERVICES	0	0	0	0	1	1	0	0	0	0	0	3
PERSONAL SERVICES	0	0	0	0	0	0	0	0	0	0	0	1
TRANSPORTATION MARGINS	0	0	0	0	5	9	0	0	8	3	0	25
OPERATING, OFFICE, LAB AND FOOD	0	0	0	0	5	9	0	0	7	3	0	25
TRAVEL AND ADVERTISING PROMOTION	0	0	0	0	3	6	0	0	2	1	0	13
TOTAL	0	0	2	1	152	270	6	3	173	68	0	675

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.21

URBAN AND RESIDENTIAL DEVELOPMENT
DIRECT, INDIRECT AND INDUCED GROSS OUTPUT
(MILLIONS OF 1980 DOLLARS)

INDUSTRY	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Y+NWT	CANADA
AGRICULTURE	0	0	0	0	6	12	4	6	20	3	0	50
FORESTRY	0	0	0	0	1	1	0	0	7	8	0	18
FISHING, HUNTING AND TRAPPING	0	0	0	0	0	0	0	0	0	0	0	1
METAL MINES	0	0	0	0	2	3	0	0	0	0	0	6
MINERAL FUELS	0	0	0	0	0	0	0	3	55	4	0	63
NON-METAL MINES AND QUARRIES	0	0	0	0	0	0	0	0	0	0	0	2
SERVICES INCIDENTAL TO MINING	0	0	0	0	0	0	0	0	2	0	0	3
FOOD AND BEVERAGES	0	0	0	1	21	34	7	4	30	11	0	108
TOBACCO PRODUCTS	0	0	0	0	1	2	0	0	0	0	0	3
RUBBER AND PLASTIC PRODUCTS	0	0	0	0	4	10	0	0	1	3	0	18
LEATHER PRODUCTS	0	0	0	0	2	2	0	0	0	0	0	4
TEXTILES	0	0	0	0	13	10	0	0	0	0	0	25
KNITTING MILLS	0	0	0	0	3	1	0	0	0	0	0	4
CLOTHING	0	0	0	0	11	3	1	0	1	0	0	17
WOOD PRODUCTS	0	0	0	0	3	2	0	0	22	14	0	42
FURNITURE AND FIXTURES	0	0	0	0	12	12	1	0	2	0	0	28
PAPER AND ALLIED PRODUCTS	0	0	0	0	10	19	2	0	2	5	0	38
PRINTING AND PUBLISHING	0	0	0	0	4	7	1	0	3	1	0	17
PRIMARY METALS	0	0	1	0	21	42	1	1	4	2	0	71
METAL FABRICATING	0	0	0	0	21	51	1	0	9	6	0	88
MACHINERY	0	0	0	0	1	7	0	0	1	0	0	8
TRANSPORTATION EQUIPMENT	0	0	0	0	2	15	0	0	1	1	0	20
ELECTRICAL PRODUCTS	0	0	0	0	14	32	0	0	1	0	0	49
NON-METALLIC MINERAL PRODUCTS	0	0	0	0	4	7	1	0	40	3	0	54
PETROLEUM AND COAL PRODUCTS	0	0	1	1	10	12	2	2	21	7	0	56
CHEMICALS AND CHEMICAL PRODUCTS	0	0	0	0	9	19	0	0	3	2	0	34
MISCELLANEOUS MANUFACTURING	0	0	0	0	13	13	0	0	1	0	0	27
CONSTRUCTION	0	0	0	0	4	10	1	1	12	3	0	33
TRANSPORTATION AND STORAGE	0	0	0	1	20	36	3	1	17	9	0	87
COMMUNICATION	0	0	0	0	5	9	1	1	8	3	0	27
UTILITIES	0	0	0	0	5	9	2	1	11	3	0	31
WHOLESALE TRADE	0	0	0	0	24	45	3	1	23	11	0	109
RETAIL TRADE	0	0	0	0	21	31	6	5	41	11	0	114
OWNER OCCUPIED DWELLINGS	0	0	0	0	6	18	4	3	27	7	0	66
FINANCE, INSURANCE, AND REAL ESTATE	0	0	1	1	29	54	5	3	31	13	0	137
EDUCATION AND HEALTH SERVICES	0	0	0	0	2	3	1	1	5	1	0	13
AMUSEMENT AND RECREATION SERVICES	0	0	0	0	2	3	0	0	3	1	0	10
SERVICES TO BUSINESS MANAGEMENT	0	0	0	0	7	14	1	0	6	3	0	32
ACCOMMODATION AND FOOD SERVICES	0	0	0	0	8	12	3	2	25	6	0	57
PERSONAL SERVICES	0	0	0	0	2	4	1	1	6	1	0	15
TRANSPORTATION MARGINS	0	0	0	0	8	14	1	1	12	5	0	41
OPERATING, OFFICE, LAB AND FOOD	0	0	0	0	11	20	2	1	16	6	0	57
TRAVEL AND ADVERTISING PROMOTION	0	0	0	0	9	15	1	1	8	3	0	37
HOUSEHOLDS	0	0	2	2	150	247	61	54	422	102	0	1040
TOTAL	1	1	8	8	501	861	118	95	901	262	0	2757

NOTE TOTALS MAY NOT ADD DUE TO ROUNDING

TABLE C.22

GROSS DOMESTIC PRODUCT DEFLATORS, 1974-1980
(1980 = 1.0)

Industry	Deflator
Agriculture	0.621
Forestry	0.606
Fishing, Hunting and Trapping	0.488
Metal Mines	0.714
Mineral Fuels	0.251
Non-Metal Mines and Quarries	0.885
Services Incidental to Mining	0.243
Food and Beverages	0.575
Tobacco Products	0.513
Rubber and Plastic Products	0.621
Leather Products	0.629
Textiles	0.704
Knitting Mills	0.559
Clothing	0.559
Wood Products	0.568
Furniture and Fixtures	0.565
Paper and Allied Products	0.585
Printing and Publishing	0.610
Primary Metals	0.549
Metal Fabricating	0.658
Machinery	0.595
Transportation Equipment	0.581
Electrical Products	0.606
Non-Metallic Mineral Products	0.568
Petroleum and Coal Products	0.746
Chemicals and Chemical Products	0.521
Miscellaneous Manufacturing	0.588
Construction	0.662
Transportation and Storage	0.592
Communication	0.685
Utilities	0.515
Wholesale Trade	0.617
Retail Trade	0.625
Owner Occupied Dwellings	0.671
Finance, Insurance, and Real Estate	0.556
Education and Health Services	0.571
Amusement and Recreation Services	0.571
Services to Business Management	0.571
Accommodation and Food Services	0.571
Personal Services	0.571
Households	0.606

SOURCE: Informetrica Limited

TABLE C.23

GROSS OUTPUT DEFLATORS, 1974-1980
(1980 = 1.0)

Industry	Deflator
Agriculture	0.621
Forestry	0.606
Fishing, Hunting and Trapping	0.488
Metal Mines	0.714
Mineral Fuels	0.251
Non-Metal Mines and Quarries	0.885
Services Incidental to Mining	0.243
Food and Beverages	0.608
Tobacco Products	0.975
Rubber and Plastic Products	0.613
Leather Products	0.588
Textiles	0.643
Knitting Mills	0.711
Clothing	0.613
Wood Products	0.610
Furniture and Fixtures	0.600
Paper and Allied Products	0.547
Printing and Publishing	0.665
Primary Metals	0.479
Metal Fabricating	0.655
Machinery	0.921
Transportation Equipment	0.575
Electrical Products	0.643
Non-Metallic Mineral Products	0.531
Petroleum and Coal Products	0.394
Chemicals and Chemical Products	0.637
Miscellaneous Manufacturing	0.407
Construction	0.581
Transportation and Storage	0.590
Communication	0.685
Utilities	0.515
Wholesale Trade	0.617
Retail Trade	0.625
Owner Occupied Dwellings	0.598
Finance, Insurance, and Real Estate	0.556
Education and Health Services	0.598
Amusement and Recreation Services	0.673
Services to Business Management	0.571
Accommodation and Food Services	0.583
Personal Services	0.571
Transportation Margins	0.592
Operating, Office, Lab and Food	0.571
Travel and Advertising Promotion	0.571
Households	0.593

SOURCE: Statistics Canada

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